The Golden Hands Encyclopedia of CRAFTS

The complete guide to traditional and modern home crafts

Volume 6

Golden Hands Encyclopedia of CRAFTS

Marshall Cavendish

Contents

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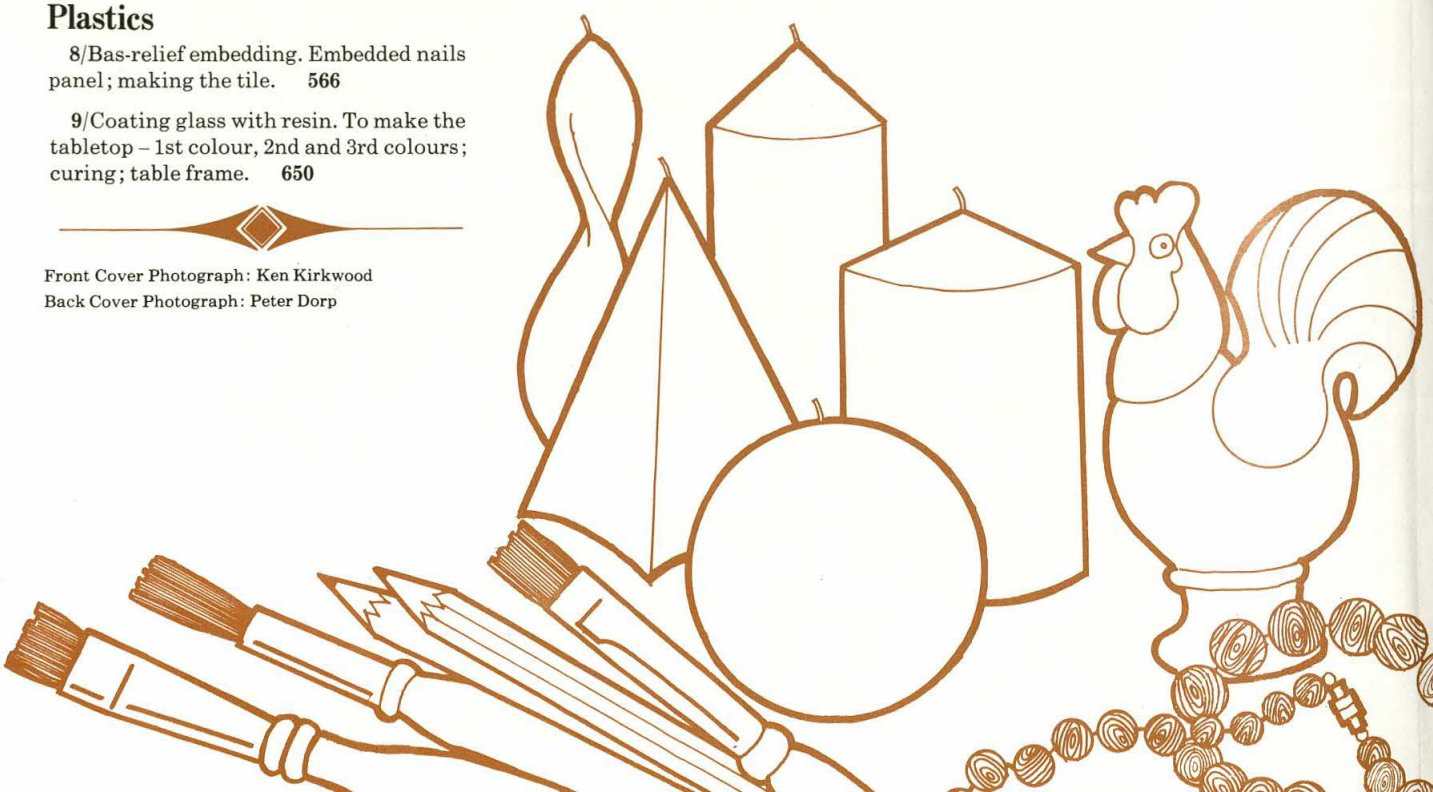

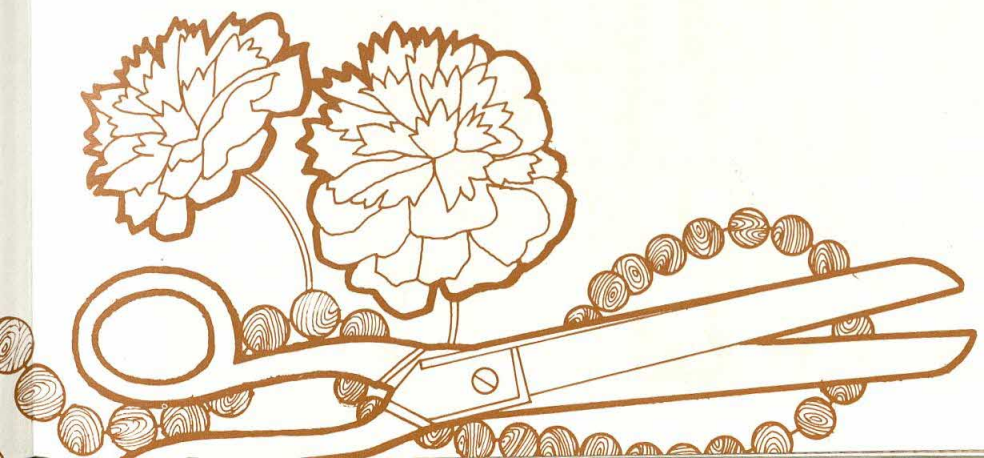

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Metrication

In this volume you will find two systems of measurement. The first set of figures refers to the metric system and the Imperial figures follow in brackets. Wherever possible, a commonsense approach has been adopted and both sets of measurements have been worked out in round numbers. **BUT BEWARE!** This means that metric and the Imperial figures are *not* equivalent so make sure you only work with one or other set of figures.

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Creative ideas 20

Victoria Drew

Alasdair Ogilvie

Designed by Anita Skjold.

Felt flowers

Here is an everlasting bouquet to see you through rainy days and cheery days. Made from felt—that versatile fabric—embroidery cotton, ready-made stamens and a little glue, they can be used on hats, in your hair or on a lapel.

You will need:

Small squares of felt in 7 assorted colours.
1 or 2 bunches of stamens.
Tube of clear fabric adhesive.
Scissors; large darning needle.
Ball of green Anchor Pearl Cotton No.5.
Card to make shapes.

Bouquet. To make the bouquet use five different colours of felt. Draw around flower shapes on card and then on felt and cut out 12 flowers in each colour. Pierce the centre of each with the darning needle, fold the stamen wires in half and push the folded ends through each of the 60 flowers (fig.1).

Pull stamens up tight to centre of flowers and fix in place with a blob of glue on the back.

Cut 12 lengths of Anchor Cotton 25.5cm (10") long. Fold each length in half and thread on five different coloured flowers. Hook the ends through the loop and pull tight (fig.2).

Bunch the 12 groups together and make one knot of all the threads, pushing the knot up tight to base of stamens (fig.3).

Trim ends of threads to required length.

The leaf posy uses three colours of felt for flowers and one of green for the leaf. Cut out eight of each flower shape, mixing the colours.

Make 8 flowers, by centering smaller on larger shapes and following the instructions above. When threading through the fold of the stamen use eight strands of cotton and one flower on each strand.

Cut out felt leaf shape and pierce hole in centre. Pull strands, but not stamens, through to leaf back and knot next to leaf.

Snip leaf to serrated shape.

Being creative with doilies

The curious word doily or doyley comes from a 17th-century surname, presumably of a textile trader; the surname then came to be used to describe a small ornamental dessert napkin—in 1711 Dean Swift wrote: 'after dinner we had coarse Doiley napkins, fringed at each end, upon the table'.

When paper lace making came into fashion at the end of the 18th century, those coarse doily napkins became the delicate paper confections we know today.

Paper doilies are inexpensive to buy and their decorative possibilities are endless. You can exploit their rather Victorian charm and the many different patterns available by taking them to pieces and using the sections to make collages, Valentines or other 3-dimensional things. You can use them 3-dimensionally to make delicious lacy decorations either to hang or to place on the table.

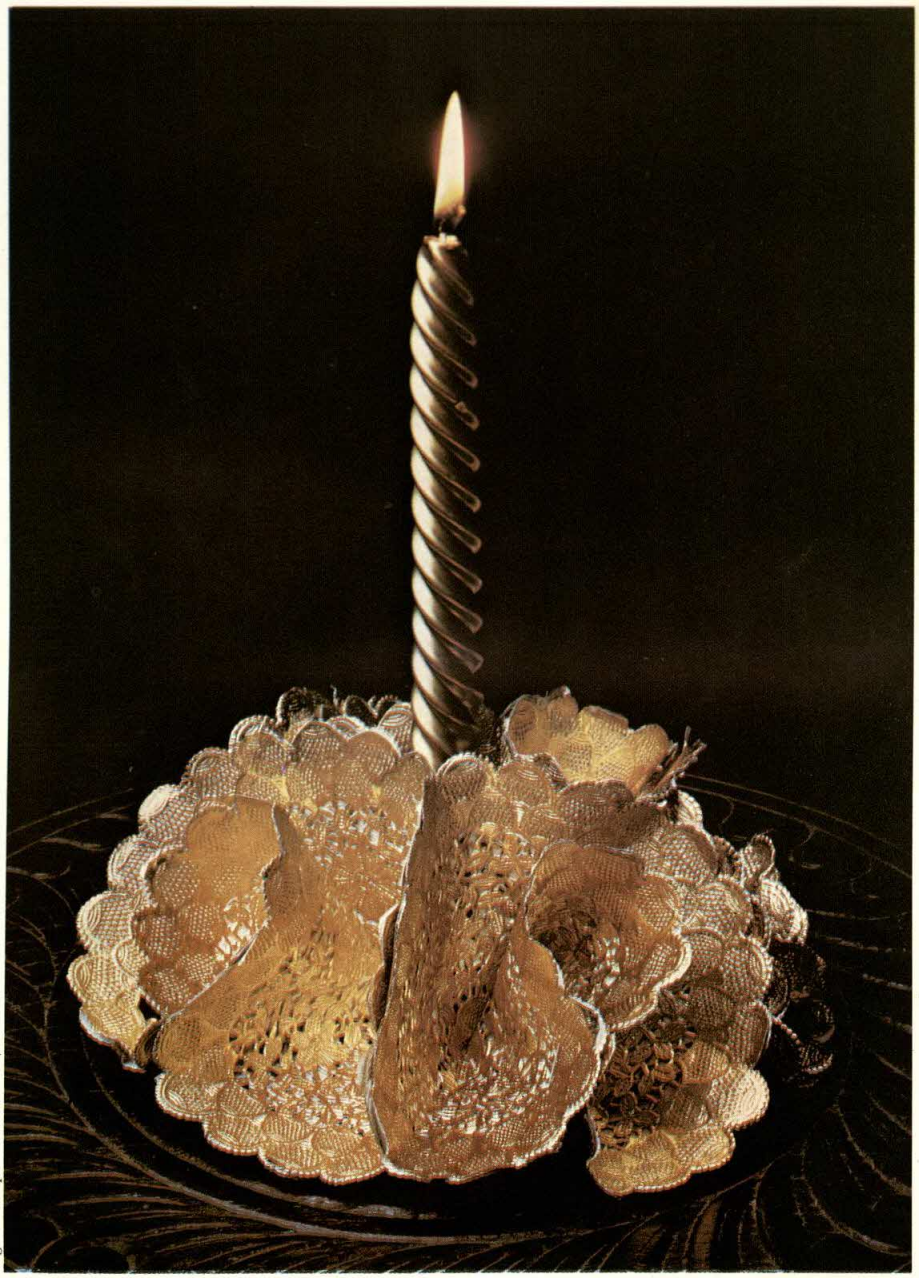
Gold doily candle holder

These should only be used with candles if you can obtain flame-proofing solution.

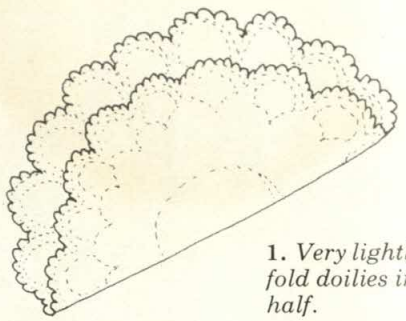
Stick eight gold doilies together in pairs, wrong side to wrong side, matching the scalloped edges together as far as possible so no white shows.

Without creasing, fold each pair in half, then in half again, stapling the folds in place. Then staple the four doilies together to form a circle (fig.1).

Spray thoroughly with flame-proofing solution and place a candle at the centre of the doilies.

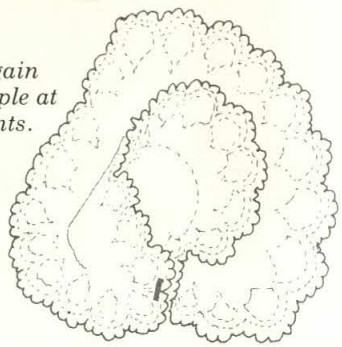


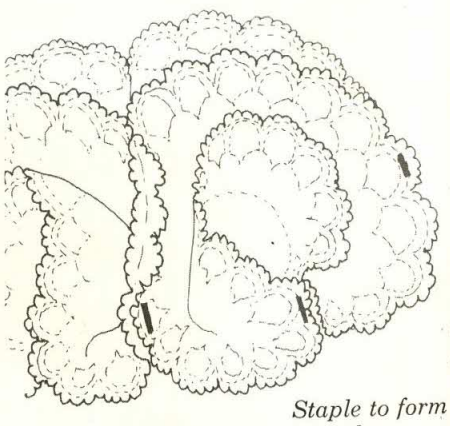
Roger Phillips



1. *Very lightly fold doilies in half.*

Fold again and staple at fold joints.





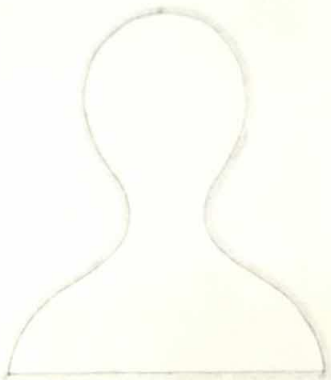
Staple to form a circle.

Joy Simpson

Doilies used for candle holders must be sprayed with flame-proofing solution.

Doily mobiles

Cut two flat white card shapes (fig.2) making them as large or as small as you like, depending, to some extent, on the size of doily you are using.



2. *Head and shoulder shape for mobile.*

Decorate the face areas with pink circles for cheeks, and two dots for eyes. Stick on gold tinsel hair.
Cut out circles from centres of two doilies and pleat the remaining outer circle for robes. Stick the robe beneath the face and hide the join with decorative ribbon or braid.
Hang from a gold thread.

Hanging doily ball

Without folding the doilies, attach four or five of them together at their centres with a paper clip or a stitch of cotton. Fluff out and hang from coloured ribbon.

Right: hanging doily ball is simple to make and very decorative.

Below: golden haired figures with lacy robes make charming mobiles.

PAF International

PAF International

Roger Phillips

Delicate patterns carefully cut out from doilies make a romantic looking frame for a pretty card.

Dyeing doilies

Although doilies are only available in white, gold or silver, white doilies can be dyed successfully with fabric dye to make spectacular bunches of flowers. To dye doilies, make quantities of cold dye in different colours and quickly dip the doilies into them. Allow them to dry on kitchen paper and then iron them.

Cutting and sticking

When cutting doilies, cut round the motifs or patterns, when possible, so as to leave a patterned edge, rather than cutting straight across, which gives a rather hard, unattractive line.

When sticking doilies together, work over a spare piece of paper, removing it at once before the glue hardens, then stick the doilies together, trying to match up the patterns as far as possible. If this isn't possible, trim carefully with scissors after sticking.

Right: lace effect collage shows a few of many doily patterns.

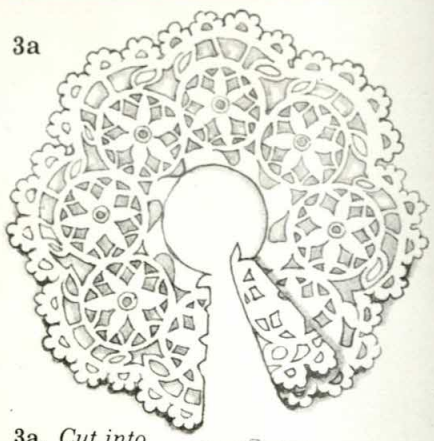
Doily flowers

Cut a 5cm (2″) circle from the centre of two 20cm (8″) doilies. Cut into the remaining outside circles (fig.3a). Join together to make a long strip.

Wind the doily strip round and round a pipe cleaner stalk, crushing the base of flower on to stalk (fig.3b). Wrap the pipe cleaner in strips of green crepe paper and stick with paper adhesive.

Peter Heinz

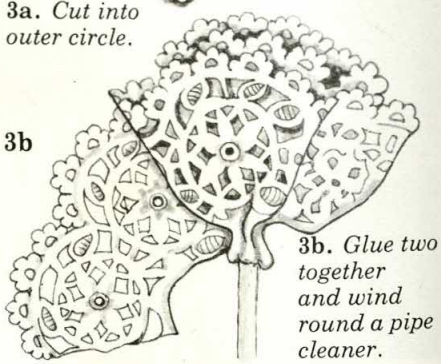
3a



Joy Simpson

3a. *Cut into outer circle.*

3b



3b. *Glue two together and wind round a pipe cleaner.*

Malvin Grey

Fabric dyes can also be used to make stunning bunches of doily flowers.

Bas-relief embedding

Plastics 8

Theo Bergström

In this chapter a polyester resin slab is decorated with a variety of nails to make a bas-relief panel. You can also use found objects such as a length of chain, a horseshoe or shells to make a design which is durable, looks chunky and gives an interesting texture.

There is a great deal of scope in this technique of partially embedding durable objects in resin.

The resin you need is a general-purpose polyester resin, pre-accelerated and pale mauve in colour. A clear embedding resin may also be used (see Plastics chapter 1, page 32). The resin can be coloured with a number of resin pigments, used with metal fillers such as copper, slate or aluminium, or made up of a mixture of half resin and half sand. You can add a decorative, textured surface to any flat object to create panels, plaques or tiles.

Embedded nails panel

The panel can be used to decorate one side of a window box (which you can easily make yourself) to create a strong, weatherproof container for your plants. Alternatively, you can decorate all four sides of the box with embedded resin.

You will need:

A piece of blockboard 77cm x 23cm (2′6″x9″) and 1.25cm (½″) thick.

340gm (12oz) general purpose polyester resin.

Catalyst. This usually comes in 56gm (2oz) bottles.

56gm (2oz) metal filler such as aluminium, or slate, which comes in powder form.

Objects for decorating the panel: for the window box illustrated you will need about 56gm (2oz) each of carpet tacks and thin 2.5cm (1″) nails, and half a dozen flooring nails. The exact quantity and type of nail is not important, but choose a variety of sizes and shapes.

Strip of cardboard 5cm (2″) wide and long enough to go round the board, ie 2m (6′6″).

Masking tape or transparent adhesive tape.

Disposable calibrated (measuring) paper cups for calculating amounts of liquid.

Large tin or metal bucket for mixing resin. Don't let the tin or bucket come into contact with food afterwards.

Flat-edged wooden spoon, spatula or smooth, flat piece of wood (not to be used for cooking afterwards).

Small soft brush, such as a pastry brush (not to be used for pastry afterwards).

A cleaner such as a polyester resin solvent or a concentrated resin detergent for cleaning utensils.

Small or medium hammer; glasspaper.

Polyurethane varnish (optional).

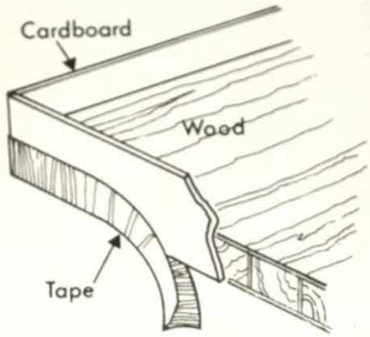
Since you will need to work quickly with the resin before it hardens, it is essential to have a clean and tidy working surface before starting. Lay

A resin panel embedded with nails makes up into an attractive and serviceable window box for your plants.

newspaper on the table and have all the materials to hand. If your hands are at all sensitive use a barrier cream. As the resin gives off toxic fumes make sure that the room is well ventilated.

☐ Design an arrangement of nails to go on the blockboard. Lightly hammer the heads of the nails into the wood so they stand clear of the surface of the wood. The intention is to hold the nails steady until the resin sets. Some nails will be lying flat in your design and you do not need to hammer these.

☐ Cut the strip of cardboard into lengths equal to the four sides of the piece of blockboard. The cardboard strips will prevent the resin from running over the edge of the board. Tape the strips round the edges of the board, making sure that the tape extends underneath the board for a firm hold and tight seal (fig.1).



Trevor Lawrence

1. *Firmly tape the cardboard all round the edges of the blockboard.*

☐ Using a calibrated cup measure 340gm (12oz) resin into the tin. Add the catalyst. The catalyst bottle is marked with quantity guidelines which will tell you how much catalyst to add, and the bottle is fitted with a pinhole bung which makes dropping easier and more precise. You will need about 70 drops of catalyst.

Catalysed resin. Once the resin has been catalysed a chemical reaction takes place and the resin begins to polymerize or cure. The reaction produces heat (exotherm) which turns the liquid to a jelly and then to a soft, rubbery substance. Finally, the resin sets very hard.

The useful working life of a mixed resin is 26 minutes under normal room temperatures, 20°C (67°F). At lower temperatures it will cure more slowly.

☐ Working quickly, but without rushing, spoon out the mixture on to the board and spread out evenly to get a smooth layer.

☐ Any objects which have not already been hammered on to the board should be arranged at this stage.

☐ When the resin is at the jelly stage (4-5 hours) sprinkle the metal filler (aluminium was used for window box shown here) over the surface. Spread it evenly and as thickly as you like. Any excess can be brushed off later.

☐ Wait for the resin to harden overnight, or longer if possible.

☐ When the resin has hardened brush the excess filler off with a pastry brush. Brush thoroughly round all the nails. Wrap the fragments in newspaper and put in the dustbin.

☐ Remove the cardboard strips.

If the window box is going to be out of doors you can varnish the front panel with a clear polyurethane varnish for extra protection. If you have embedded other panels of the box then varnish these. To convert the panel into a window box add two sides, a bottom and a back panel of blockboard (see Carpentry chapter 4, page 236). Sand down the wood and varnish for a good finish. You will have an attractive and sturdy container for your plant.

The tile

As an alternative to making a panel for a window box you can make an attractive tile using the same technique.

You will need:

One piece of blockboard 25cm x 25cm (10"x10") x 2.5cm (1") thick.
340gm (12oz) general purpose polyester resin.
Catalyst.
½kg (1lb) metal filler.
Medium wet and dry abrasive paper.
Shells and other objects for decorating the panel.
Other equipment as described for making the window box panel.

☐ Prepare the working surface and tape the cardboard to the wood as you would for the window box panel (fig.1). Mix up the filler with the resin. You will need to use at least 50% filler to 50% resin. Specific instructions will come with each pack of filler, so follow these. Save a handful of filler to sprinkle on the top at jelly stage.

☐ Add enough catalyst as for 1kg (2lb) resin, about 200 drops.

☐ Pour the resin on to the tile and smooth over with the spoon. The resin should be not more than 1cm (½") thick.

☐ Arrange the objects on the resin and press into the resin to hold.

☐ When the resin starts to gel you can score patterns on the surface with a knife if you wish. Sprinkle a little extra filler on the surface.

☐ When the resin has completely hardened brush off any excess filler with a soft brush and peel off the cardboard strips.

☐ Sand the sides of the resin block with medium wet and dry abrasive paper. You can also sand and varnish the blockboard for a better finish and greater durability.

Peter Heinz

Bring back memories of the seashore with a resin and embedded shell tile.

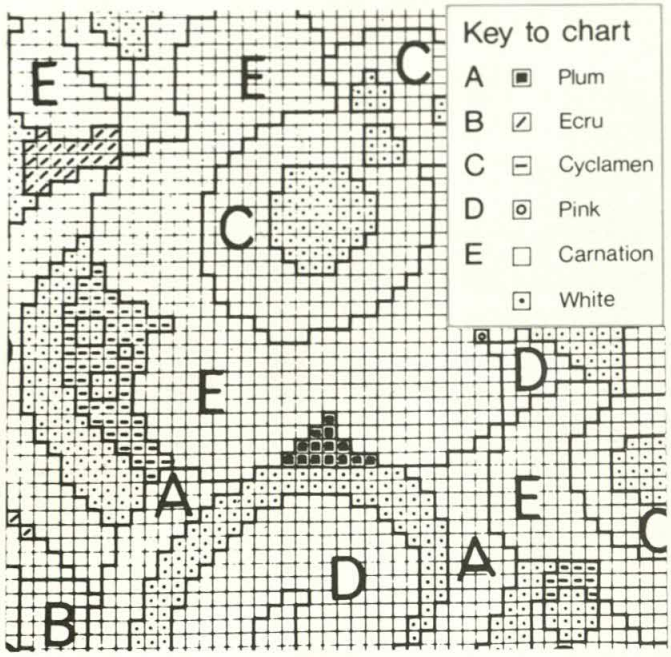
Working from a chart

Needlepoint designs are usually presented in magazines and books in the form of a printed chart. This has the advantage of being far cheaper than buying a painted canvas. An embroidery chart consists of a diagram drawn up into squares, each representing one or more threads of the canvas.

A chart may show areas of different stitches and/or different colours. These can be symbolized on the chart with lines and dots plus letter indications of colour (fig.1), or the chart may be printed in colour to show the colour changes, with a code for the type of stitch used (fig.2).

The information to help you 'read' the chart is usually given in an accompanying stitch and/or colour key.

Advantages. Not only is a chart an economical way of buying a design, it also has the advantage that one part of the design may be extracted from the chart and used on a larger or smaller scale or as a repeat design. The type or number of stitches can be changed, or the design further embellished—the choice is entirely yours.

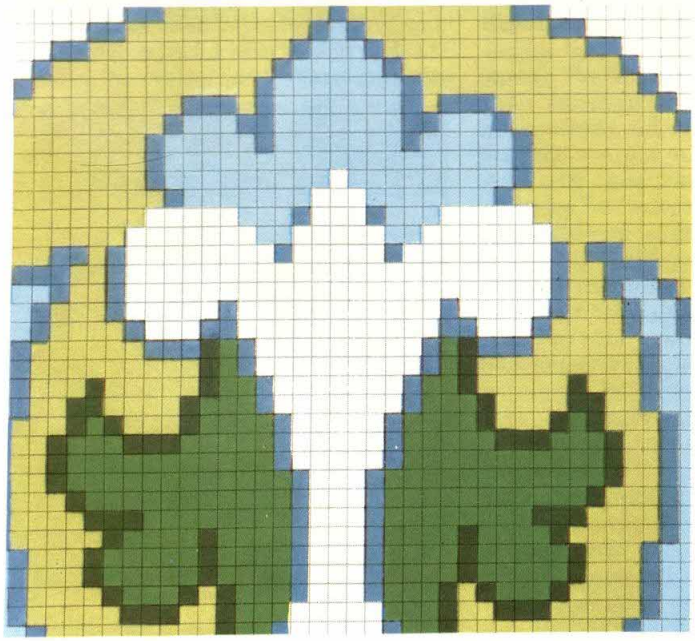


Paul Williams

1. *Chart using symbols and letters to indicate colour.*

John Carter

The worked design from the chart shown left.



2. *Chart using colour to show different areas.*

DMC

The worked design from the chart shown left.

A chart, however, does demand some concentration while you are transferring the pattern in outlines on to the fabric, but once these are accurately placed the rest is easy.

Changing the scale. Any chart can be easily enlarged or made smaller to fit in with your requirements. The original design may be for working a pin cushion, lighter case or evening bag, but simply by altering the scale it could be made into a cushion, fire screen, stool top, weekend bag or picture.

One simple way of doing this is to alter the size of canvas and use wool which will cover it well—in this way you could use a design intended for tapestry wool and make it up in rug wool.

Alternatively, if you want to use the same size canvas and wool, you could change the scale by altering the number of threads each square on the chart represents.

You can work out the changed scale on graph paper. For example, if you want to enlarge the scale, start by shading in four squares for every one square on the original chart (fig.3). When working the design the enlarged square may be filled with four stitches.

Making your own chart. Working on the same principles as the bought chart it is a simple matter to make up your own—either by copying an illustration which takes your fancy or by inventing your own designs. All you need is graph paper, an assortment of felt-tipped pens, and a dark biro to indicate symbols if you are using them—and don't forget to make a key. You can play around with different combinations on the graph paper till you are satisfied with the result.

Using a chart

Finding the centre. Before you start to work on the canvas you will need to find the centre.

One method is to count the number of squares from top to bottom and from side to side. Divide each total by half and count this number of squares, working in from two adjacent edges. Mark the centre.

Another method is to fold the canvas in half, matching the weave accurately. Fold both vertically and horizontally. Mark fold by running a thread along the centre line or draw along it.

Transferring the design. Begin at the centre. For cross, half cross and tent stitch each square on the chart usually corresponds to one thread intersection on the canvas.

Mark the outlines of each area with stitches, using the stitch and colour indicated. This ensures that the whole design is accurately transferred.

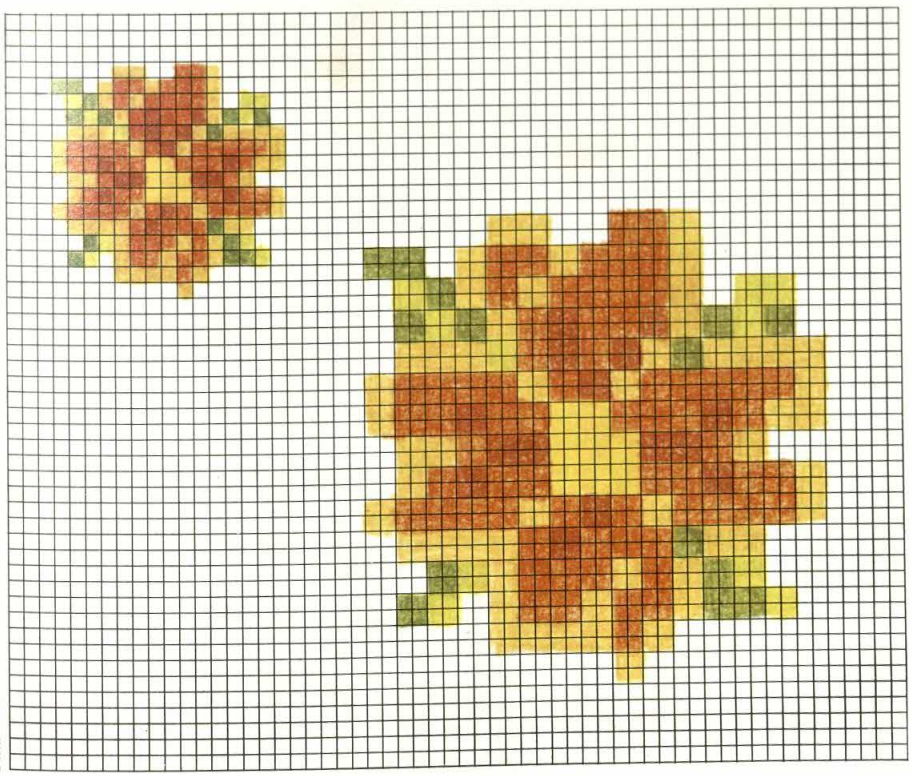
Fill in the small areas of stitches. Where a few stitches in one tone are worked in groups close together, pass the yarn from one group to another without fastening off each time.

The yarn will be covered at the back of the work by subsequent stitching.

The tension should be fairly loose.

Lastly, fill in the large areas of stitches and the background.

3. *Enlarging a design by using four squares to equal one of the original.*



Paul Williams

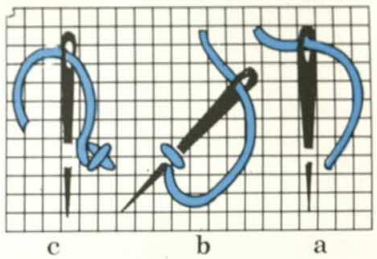
Basic stitches

Cross stitch is formed by two oblique stitches which cross in the centre.

There are two basic methods in which it can be worked.

For small areas, make one complete stitch at a time (fig.4). It is essential that the upper half of the stitch should lie in the same direction if an even and regular effect is to be achieved. Traditionally the upper stitch should slope from bottom left to top right.

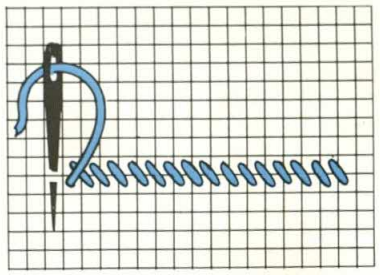
4



For large areas, work one line of single oblique stitches in one direction then complete the stitch on the return journey (fig.5).

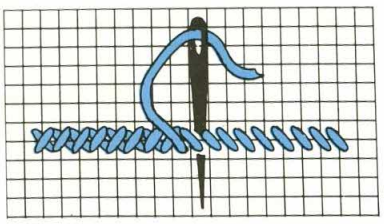
Bring the needle out at the lower right side of the line to be worked, insert the needle the same number of threads up and to the left and bring out the needle the same number of threads down, thus forming a half cross stitch.

5



Continue in this way to the end of the row if you are working a large area. To complete the stitch, bring the needle through the right side at the lower left corner, inserting it into the top right corner and bringing it out vertically through the same hole used for the first diagonal stitch in one movement (see fig.6).

6



Camera Press

Right: chart for the rose bag. Trace the outline of the chart for each side of the bag and the lower outline for gusset. Place dotted line to a fold.

The rose evening bag

This evening bag with rose motifs is worked entirely in cross stitch. Make it up in your favourite colours.

An evening bag, unlike its day-time equivalent, is not subject to the dictates of fashion—in one year and out the next. A beautiful evening bag can last you a lifetime—and possibly your children as well. But a really beautiful bag can be very costly, especially a needlepoint one, yet with a little time and patience and for a very small outlay, you can make your own. Being a small object it's not a life's work and needlepoint can be a very relaxing occupation—ideal for when you are watching television or talking to friends.

Design and colour. Careful thought should be given to design and colour. For a lasting item you do not want the rage of the moment but one with a lasting quality. And if it is to be your only bag, a careful mixture of colours in the design itself, which will blend in with any garment, is essential.

The design shown here has been carefully chosen bearing these points in mind. For the background black is the ideal choice being both practical and very versatile. While neutral colours, such as beige and grey are also good, and could well be substituted in the design given, do remember that a predominantly beige bag may well look grubby against a stark white outfit.

The bag is 18cm (7¼″) deep x 20cm (8″) at the widest part, and is worked in cross stitch throughout.

You will need:

Canvas 14 holes per 2.5cm (1″), 60cm x 90cm (24″x36″).

Crewel wool. About 2 skeins each of 4 pinks, 3 greens and 3 browns, and for the background colour 16 skeins (used double throughout).

Tapestry needle.

Handbag frame 16cm (6½″) wide at inner edges.

Vilene, or other non-woven interfacing, for interfacing the bag.

Fabric for lining bag.

Matching sewing cotton and needle.

☐ Draw the outline of the bag and gusset on the canvas with a felt-tipped pen, allowing a 10cm (4″) space between each section. At least 5cm (2″) of canvas must be left around the area to be stitched to allow for stretching and cutting a seam allowance.

☐ Find the centre of each of the back and front pieces of the bag canvas and stitch in the pattern outlines, working from the chart.

☐ Using two strands throughout, work the design in cross stitch on both the front and back of the bag.

☐ Fill in the background in cross stitch.

☐ Work the gusset in cross stitch, using the same colour as was used for the background.

☐ Check for any missed stitches before making up the bag.

To make up the bag. Tack Vilene to the wrong side of each piece and stitch firmly around the edges.

☐ Trim the Vilene and canvas to within 1.5cm (½″) of the stitches.

☐ Snip into the seam allowance of the long edges of the gusset strip, at about 1.25cm (½″) intervals, to enable the gusset to be eased round the curves of the front and back pieces.

☐ Match the centre of the gusset to the bottom centre of one side of the bag, right sides together. Pin, tack and sew firmly into position with back stitch.

☐ Sew the other side of the bag to the gusset, in the same way.

☐ Cut V-shape notches in the turnings of the back and front, at about 1.25cm (½″) intervals, to reduce bulk if this seems necessary.

☐ Turn the bag right side out and turn in the seam allowance along the top edge of the bag.

☐ Insert the top edges into the bag frame and hold in place with pins pushed through holes in the frame.

☐ Stitch the bag to the frame by sewing through the holes in the frame and through the fabric.

☐ Using the bag pattern, and adding 1.25cm (½″) turnings all round, make up the lining as for the bag. Place in the bag, wrong sides facing. Turn in the top edges of the lining and slip stitch into position to the canvas seam allowance, just below the frame and to meet the embroidery at the gusset edges.

Adjusting the size. To adjust the trace pattern to a different-sized handbag frame: the basic shape can be enlarged or reduced by making each square of the cutting layout represent either more or less than 2.5cm (1″). Alternatively, to increase the size, you can increase the background area, but don't forget to lengthen the gusset as well. This is simply done by measuring round the embroidered outlines of the original size and your new size, and lengthening the gusset accordingly.

A centre

TOP

A

Centre line of gusset, repeat mirror image for complete length, match to A on bag.

A

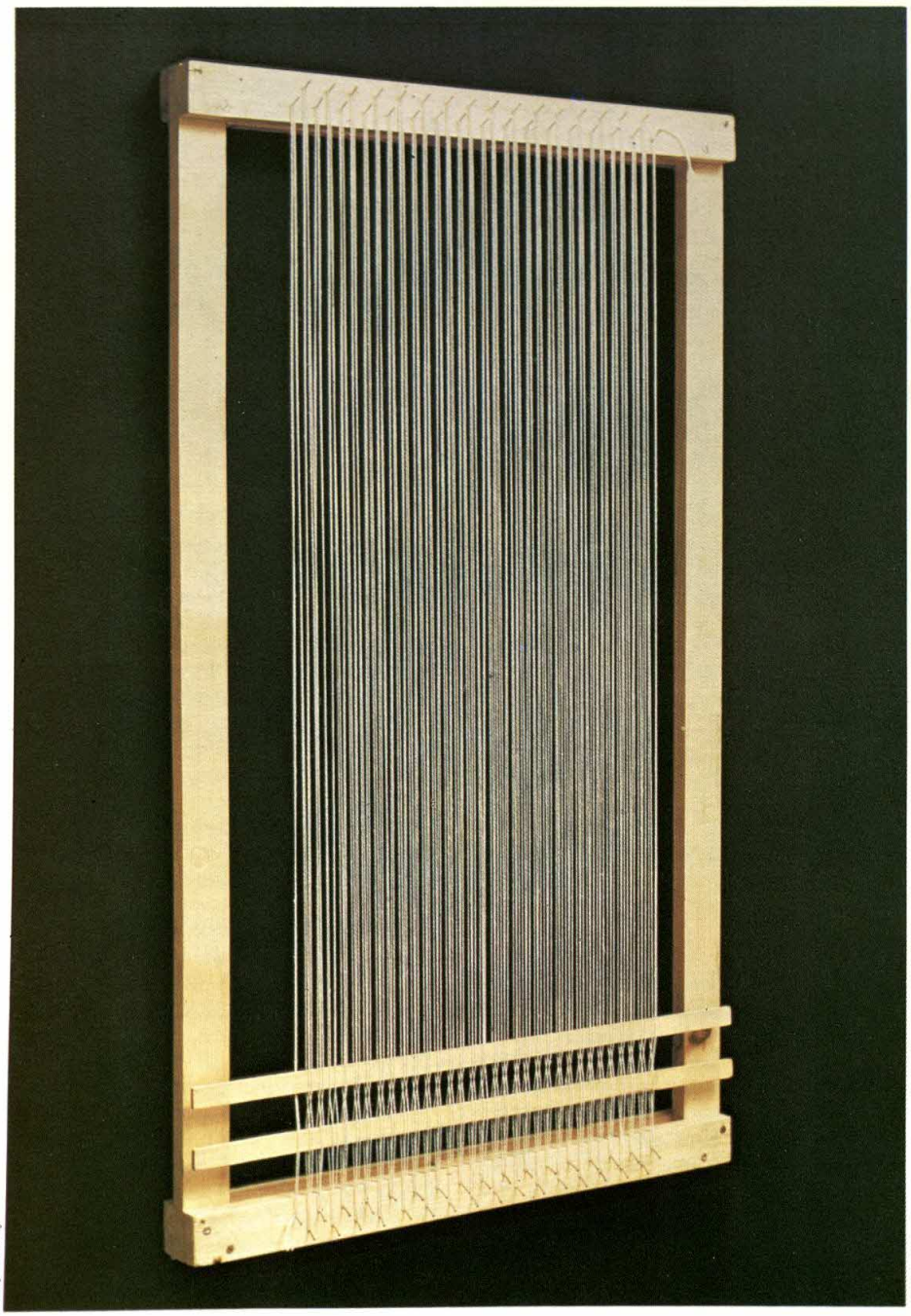
Paul Williams

Constructing a frame loom

Yarn — weaving 6

The deceptively simple frame loom is much used by professional weavers of tapestry and sculptural weaving. The advantage of a frame, whether small or large, is that it is cheap and simple to construct, simple to set up and operate and gives great freedom in the variety of materials and shapes that can be woven.

More sophisticated looms were developed simply to fill the need for quicker and greater production of lengths of cloth. Essentially the frame loom is for the one-off piece such as a hanging or a tapestry, though of course the fabric you produce on a frame can be used for all sorts of other things. The great advantage of the frame loom is that it offers scope for endless variation and experiment with texture, colour and materials, so that the process of weaving is an exciting end in itself.



Jerry Tubby

To make the frame

Although frames such as picture frames may be used, they are not usually strong enough to withstand the tension from the warp without some form of modification. As frames are so simple to construct, it is a better idea to build one for the purpose than trying to make do with something you may have lying around.

The frame loom given measures 60cm x 105cm (2′x3′6″). Although a smaller frame than this can be used, it would severely limit the size of any weaving as you have to allow 10cm (4″) in the width and 23cm (9″) in the length for wastage. The tapestry sampler in the next chapter needs to be woven on a frame of this size.

You will need:

Two pieces of pinewood 105cm x 5cm by 2.5cm thick (3′6″x2″ by 1″ thick).

Four pieces of pinewood, 60cm x 5cm by 2.5cm thick (2′x2″ by 1″ thick).

Two blocks of pinewood 5cm x 2.5cm x 7.5cm (2″x1″x3″).

Two pieces of pinewood, 6mm x 20mm ($\frac{1}{4}$″x$\frac{3}{4}$″), 70cm (28″) long, for cross sticks.

20 x 4cm ($1\frac{1}{2}$″) No.8 screws.

66 x 3cm ($1\frac{1}{4}$″) panel pins or small nails.

Cotton warp yarn, count 6/9s.

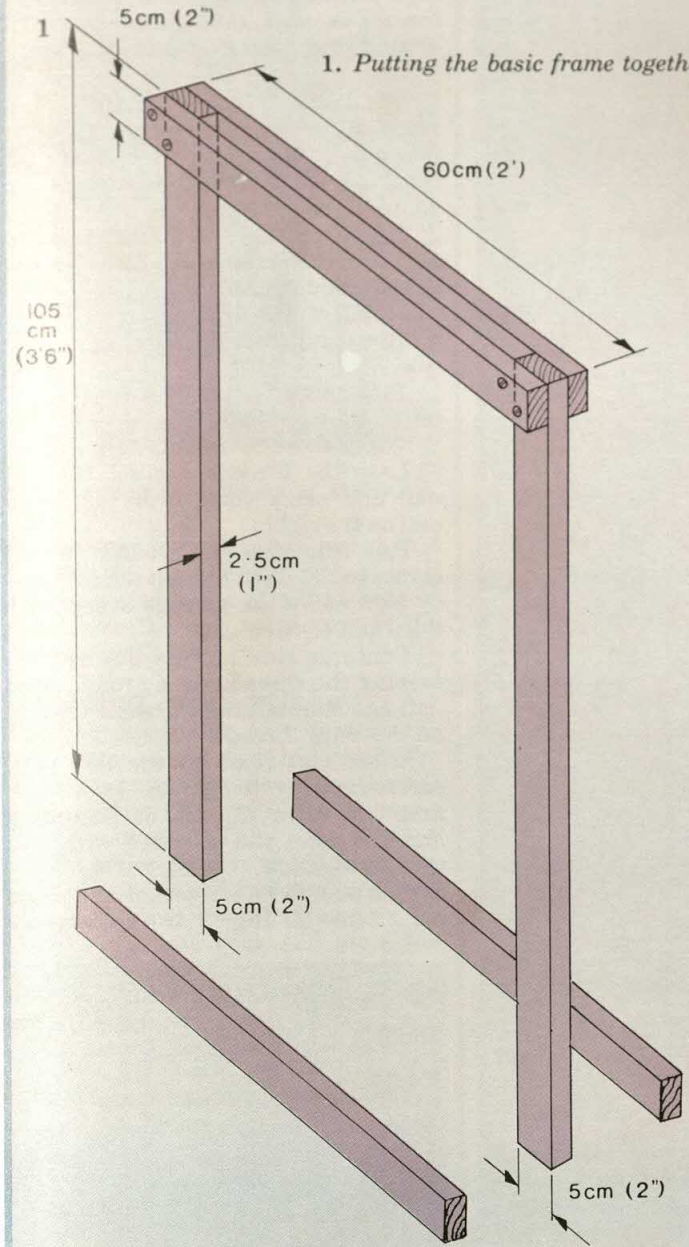
☐ Put frame together as in fig.1, using two screws per corner on each side of the frame. On one side the screws should be placed at top left and bottom right, and on the reverse of the frame at top right and bottom left. This is to prevent the screws coinciding.

☐ In the centre, between the cross pieces at the top and bottom, insert the small blocks and screw in position. These act as spacers to prevent bending under the warp tension (fig. 2).

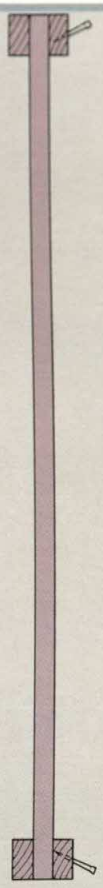
☐ Starting 5cm (2″) from one inside edge of the frame, mark off cross pieces A and B (fig.3) into 1.25cm ($\frac{1}{2}$″) intervals (making 33 along each edge), and using small nails or 3cm ($1\frac{1}{4}$″) panel pins, knock into the cross pieces on the marks at an angle (fig.4). The top and bottom pins should be exactly in line with each other.

☐ Stagger the nails as this helps to prevent the wood splitting and stops you catching your fingers between the nails when putting on the warp (fig.3).

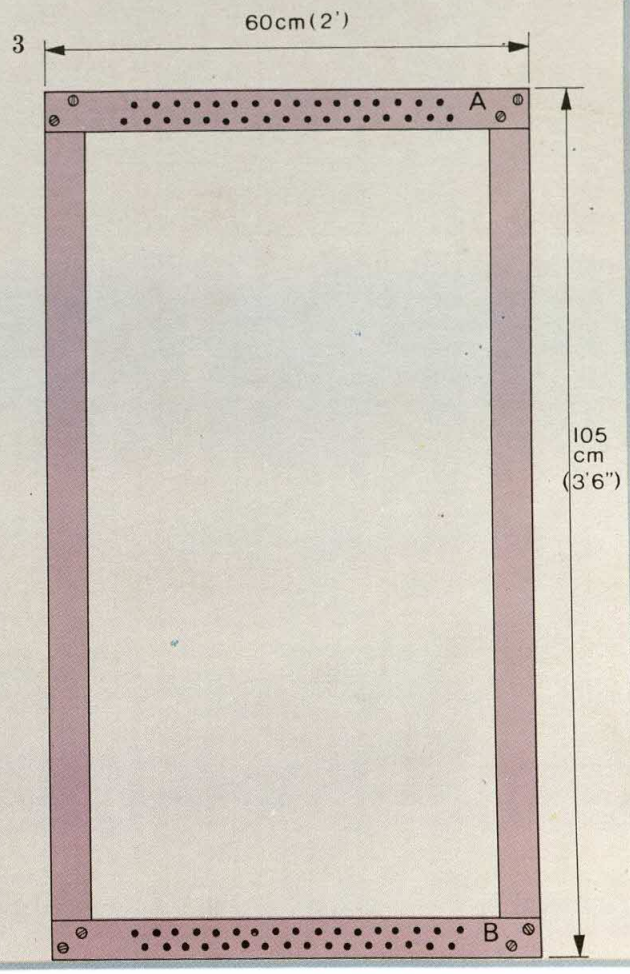
The frame loom warped up ready for weaving the tapestry sampler in the next chapter.

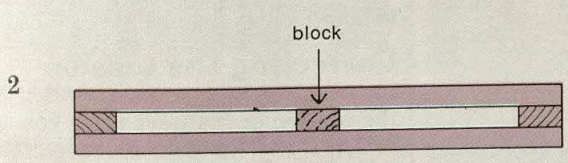


1. *Putting the basic frame together.*



4. *Side view of the frame showing the correct angle of the nails.* 4





2. *Insert the small spacer block between the two cross pieces.*

3. *Stagger the nails or panel pins to prevent the wood from splitting.*

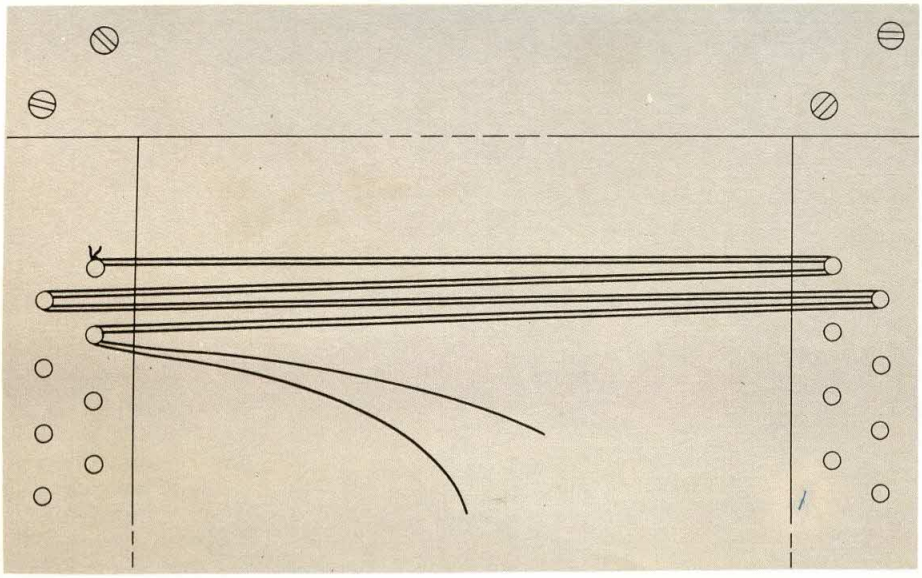
Jerry Tubby

Left: warping up the frame. Use two threads together, taking them once around each nail. Keep an even tension.

Setting up the loom

☐ Place the frame on a table or chair and lean it against a wall. It may be helpful to lay the frame on its side, as warping (putting on the warp threads) is usually easier from side to side rather than up and down.

The following instructions refer to putting the warp on the frame while it is on its side.



Eugene Fleury

5. *Putting the warp on the frame. The first two threads form the selvedge.*

☐ Wind off half of your spool of cotton twine either on to an empty spool or into a ball. Take the thread from each spool and use them together as a double thread.

☐ Tie the cotton warp thread to the first nail at the top of the frame on the left hand side (fig.5).

☐ Holding the threads reasonably tightly, carry them across to right hand side.

☐ Pass them around first nail at the top on the right hand side.

☐ Carry them to second nail on left.

☐ Loop the threads around the left nail and carry them over to second nail on the right.

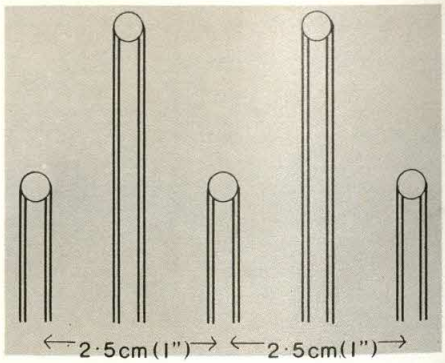
☐ Pass the threads around it and across to the third nail on the left.

☐ Now carry the threads over to the third nail on the right.

☐ Continue this process downwards, looping the threads once around each nail and maintaining the same tension on the warp threads.

☐ When you come to the last nail, secure with a temporary knot. The first two extra threads at beginning and end form the selvedge with two threads together.

Sett. You now have a sett of eight ends per 2.5cm (1″) (fig.6). In tapestry the average spacing between the warp ends is between four and twelve ends per 2.5cm (1″).



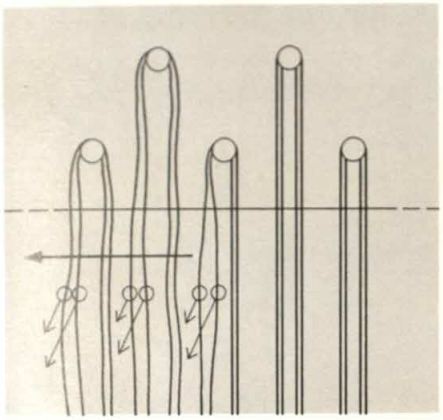
6. *Sett of eight ends per 2.5cm (1″).*

Correcting the tension

Invariably, there is an unevenness in the tension of the warp after you have finished and this can be corrected. It is worth taking the trouble to get an even tension over the warp to prevent difficulties occurring when weaving.

The tension can be corrected by working the slack along the warp from the tight side to the loose side. This is done by pulling on each warp end on the

side of the nail which is nearer the slack (fig.7).



7. *Correcting the tension of the warp.*

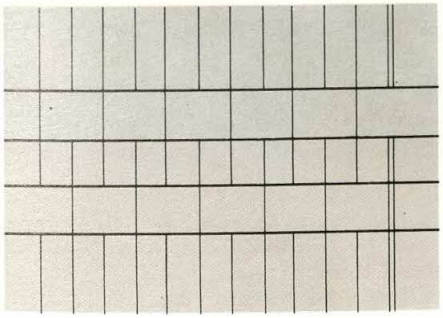
If your warp is really slack you should cut off the excess which has been worked round, and re-tie it as near as possible to the nail at the top of the frame.

Inserting cross sticks

After adjusting the warp tension the two cross sticks are inserted. The sticks maintain the order of the threads right across the warp and make it easier to weave. They also make a useful barrier against which to weave. The two sticks are inserted near the nails at the bottom of the frame.

☐ Take the first stick and place the first two threads of the selvedge on top of it. It does not matter which side you start from.

☐ The next warp goes under the stick, the next over, and so on across the warp. The odd warp ends are now all on top of the stick and the evens underneath (fig.8).



8. *The cross sticks in the warp.*

☐ The second stick is inserted with the odds and evens reversed and the threads form a cross between the two sticks when viewed from the side. Care should be taken to prevent the threads from getting out of sequence when the sticks are put in.

Sampler

Your loom is now ready for you to weave the sampler in the next chapter.

If you follow the instructions in this chapter you can build a versatile frame loom for tapestry weaving, but you can still achieve interesting effects on a very small frame. Use a wool yarn for the warp, and begin and end the weaving with a few rows of yarn. In between, any strips can be used—from metallic cord to velvet. Either weave single strips (as in Weaving chapter 5, page 374), or use a continuous length. Machine-stitch all around the weaving after cutting the warp ends, so that the piece remains secure.

Basic hat making techniques

Cloth — millinery 1

Have you ever walked from shop to shop to find a hat which is just right for you—at the right price—and then finished the day footsore and disappointed? If you learn to be your own milliner you will not only save money and hours of frustration but also have the satisfaction of knowing you have made an 'original' which is the exact colour and style you want.

These chapters cover the techniques for covering stiffened net shapes, making simple caps and berets, hats with stitched brims, turbans, and hats blocked from felt and sparterie. There are hints on trimmings and on remaking and renovating.

Professional milliners usually use 'hoods' of felt or straw which are made in simple hat-like shapes. With the aid of lots of steam they are further shaped and styled on special head-shaped wooden blocks. But many hats can be made without a block using only ordinary dressmaking equipment, including the sewing machine, and a wide range of modern fabrics.

The following chapter contains some important basic techniques, advice on choosing suitable fabrics and instructions for trimming a ready-made straw shape with fabric.

Choosing fabrics

Remnants from dressmaking may be used to complete an outfit. Carefully chosen trimmings and decorative machine stitching can give a hat in plain fabric a professional finish.

The main point to consider when choosing a fabric is that it should not be stiff, but should have plenty of crossways 'give' so that it will mould well into the rounded shape of a hat.

Another important point is that fabric should be as light as possible, which means some synthetic jerseys are unsuitable. Avoid also fabrics which are very springy and crease-resistant as these can be difficult to handle.

Very shiny fabrics should be used only in small amounts as trimmings.

Fine cotton lawn and voile are easy to work with, as are light-weight dress woollens and brushed rayons. Soft, fine silky or woollen jerseys are ideal for turbans, and organzas or rayon georgettes for special occasion hats.

Traditional fabrics, such as velvet, always look good, and some real and fake furs are ideal for hat making.

Suede and some leathers can also be successfully used for millinery.

Techniques and materials

A golden rule of millinery is that all fabrics must be cut on the true cross (bias), with centre of pattern pieces laid on the cross.

Needles and pins. Use a 'straw' needle for millinery—its extra length is essential for stitching around the awkward inside curves of a hat and makes it easier to slide stitches along the fold of a binding or a drape.

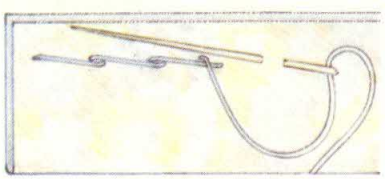
Use long, 3cm ($1\frac{3}{16}$") steel pins for hat making.

Thread. It is best to use thread in a natural fibre, preferably, not a synthetic one. A mercerized cotton such as Sylko is a good choice: No.40 for most fabrics and No.50 for fine fabrics.

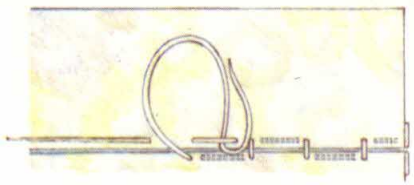
It is often advisable to use your thread double.

Basic know-how

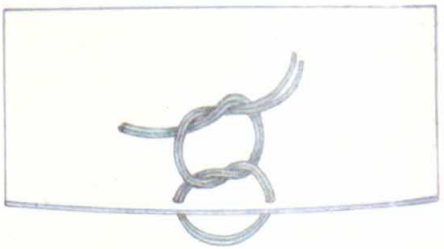
Millinery back stitch. The long stitches are on the top side to give a continuous line of thread which holds the fabric down on the hat shape.



Ladder stitch. Slip the needle through each fold of the fabric in turn, creating a series of straight stitches which should be invisible.



Stitches. All hand stitching should be as light, firm and invisible as possible. To start and finish a length of stitching it is often necessary to tie the threads inside a hat rather than to use a back stitch. Use a tie tack (fig.1) to hold the

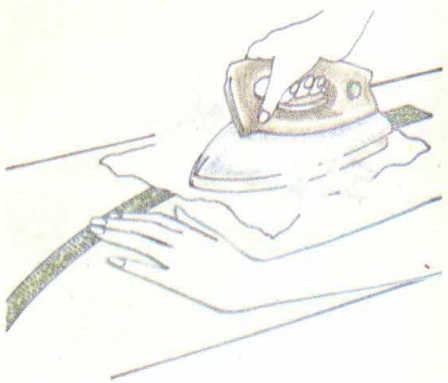


1. *A tie tack using double thread.*

end of a ribbon or to avoid long stitches inside a crown when only a few stitches at widely spaced intervals are needed.

Seams. The main seams in a hat are always positioned at the centre back and when marking this on a shape remember that your head is not round but oval, with the centre back and centre front at the ends of the oval.

Petersham ribbon. Millinery petersham ribbon is often used to trim a hat. It comes in several widths and many colours. There is no continuous rib along the edge, as there is on facing ribbon, so that with an iron and damp pressing cloth it can be curved to fit the shape of a crown (fig.2).



2. *Curving millinery petersham with an iron and a damp pressing cloth.*

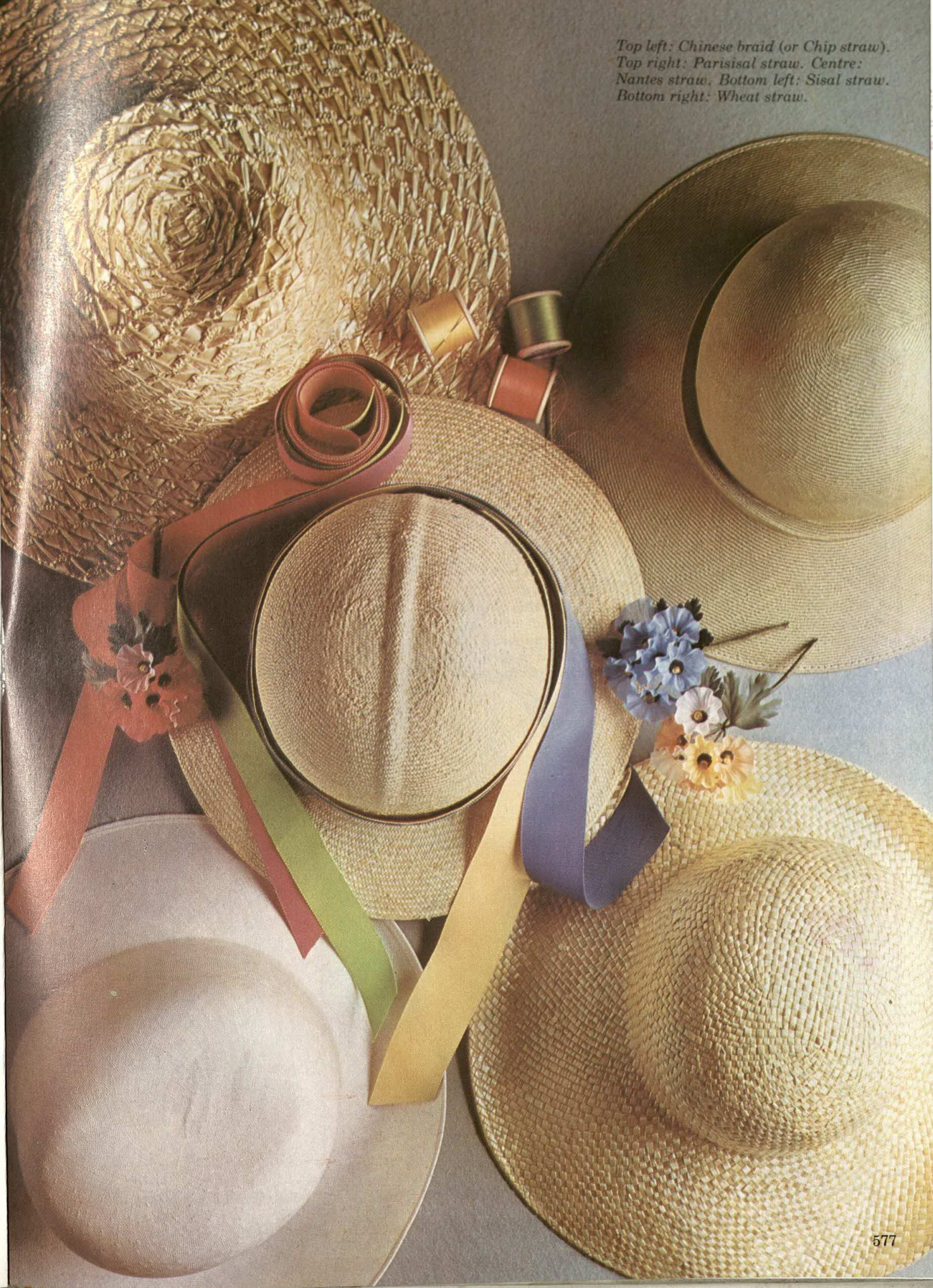
Head ribbon and lining. A narrow millinery petersham ribbon is usually used inside the headline of a hat. It conceals stitches and raw edges and holds the hat to the correct size.

A loose hat can be fitted by tightening the head ribbon and easing it into the hat. But stretching a tight hat is much more difficult and so one of the most important aspects of making a hat is to ensure a correct and comfortable fit (this is dealt with in detail in a later chapter).

A thin taffeta lining may also be used to neaten the inside of a crown where necessary.

Jerry Tubby

Eugene Fleury



Top left: Chinese braid (or Chip straw). Top right: Parisisal straw. Centre: Nantes straw. Bottom left: Sisal straw. Bottom right: Wheat straw.

Steve Bicknell

A fine straw hat with a wide, romantic brim, which is trimmed with printed lawn to match a blouse.

Trimming a straw shape

The photograph shows a fine natural straw hat with a romantic brim which would be ideal for a wedding guest or for a bride.

Straw shapes are available, untrimmed, from most millinery departments. Each shape has a head ribbon inside the crown and the edges of the brim may be supported with a fine wire, but there is still lots of scope for individual trimming to link it to a particular outfit.

You will need:

A 'butterfly' shape in fine straw.

About 60cm ($\frac{5}{8}$yd) of printed lawn (the remnants from making a dress might be enough).

3cm ($1\frac{3}{16}$") steel pins.

Straw needle No.7.

Matching fine cotton sewing thread (Sylko No.50).

☐ Press the fabric. Cut and join enough 4.5cm ($1\frac{3}{4}$") wide bias strips to fit around the edge of the brim, plus a little extra for joining the centre back seam after the binding has been fitted around the brim.

☐ Fold the strip in half lengthways, wrong sides facing, and press lightly (fig.3), taking care not to stretch the fold.

☐ Lay this double fabric on the top of the brim with the raw edges just in from the brim edge (fig.4a). Pin in place so that the final join will be made at the centre back.

Note: Pins should be placed with just enough ease between them to allow the fabric to stretch out over the brim when the strip is turned to the underside of the brim. Do not allow too much ease as the more crossways fabric is stretched out over the extreme edge of the brim, the better it will spring back and settle smoothly on the inner sewing line on the underside.

☐ Work a line of stitching approximately 6mm ($\frac{1}{4}$") from the raw edges, through the fabric and straw. These can be machine stitches, about 7-8 per 2.5cm (1"), or it may be easier to work millinery back stitch (as shown) by hand (fig.4b).

☐ Stitch up the centre back seam, making small neat stitches (ladder stitch is best) and trim the turnings to 6mm ($\frac{1}{4}$").

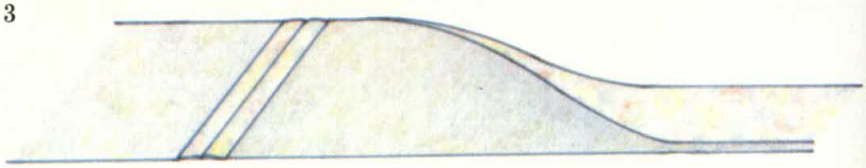
☐ Turn the folded edge of the strip to the underside of the brim and pin this in place so that it just conceals the first line of stitching. Slip stitch in place.

☐ For the swathed band around the crown, cut a bias strip about 10cm x 65cm (4"x25").

☐ Pin one short end just to the left of the centre back, with the raw edges on the long sides turned in and the width reduced to 4cm ($1\frac{1}{2}$") by pleating (fig.5). Stitch in place with a few back stitches.

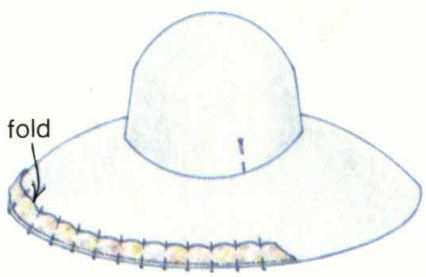
☐ Pull the drape around the crown so that the fabric lies in soft, close folds. Pin where absolutely necessary. Pleat the second end as for the first, tuck the

3



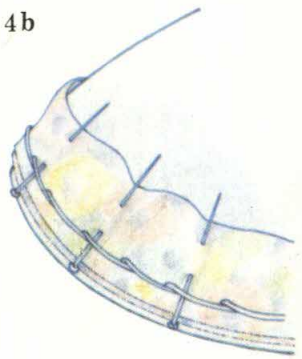
3. *Folding strip in half lengthways.*

4a



4a. *Pinning double fabric strip to brim. Note pin on crown marking centre back.*

4b



4b. *Close-up of strip pinned in place, and millinery back stitch.*

Steve Bicknell

Back view of the trimmed hat, showing the finish on the drape.

raw end under the drape and slip stitch into place (fig.6). Put in a stitch wherever a pin was needed on the drape, eg at the centre front, but be careful not to over-stitch or the drape will look flattened and tired. Tie tacks are best if only a few stitches are necessary.

Alternative finishes. At the centre back, the raw ends of the swathed band can be covered with a small crossways strip like the centre of a bow; or long tails of narrowly hemmed or double fabric may be added, with or without a bow.

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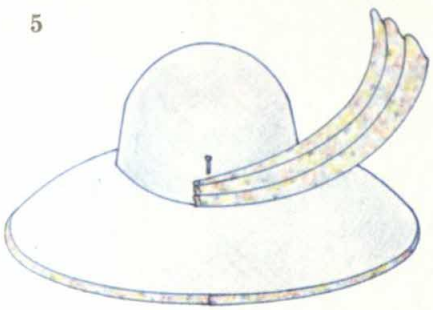

5. *One end of drape pinned to crown.*

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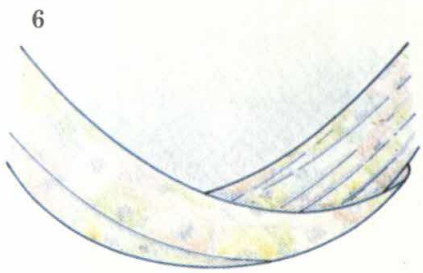
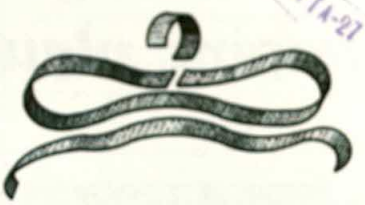


6. *Second end of drape is tucked under the first.*

Basic know-how

Making bows

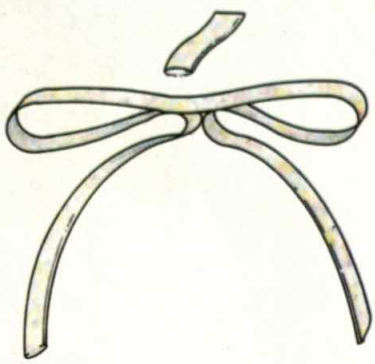
The knot is always made from a separate piece of fabric and stitched at the back of the bow.



Petersham ribbon 'tailored' bow.

Millinery petersham ribbon bow.

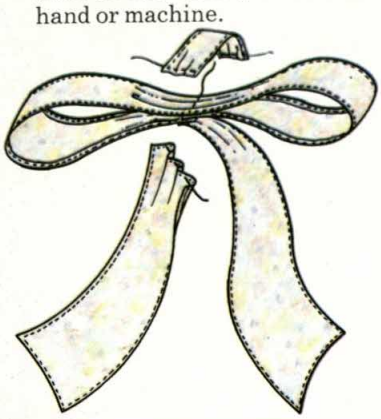
Double fabric bow. Cut fabric on the cross (bias) of twice the finished width, plus turnings. Fold the strip in half with right sides together and machine stitch along one long edge. Trim turnings to 6mm (¼") and turn through to right side.



Above: double fabric bow.

Below: single fabric bow.

Single fabric bow with ruched knot. Cut fabric for the various sections of the bow, allowing 6mm (¼") on long edges of each piece and on one short end of each of the 'tails', to neaten by hand or machine.



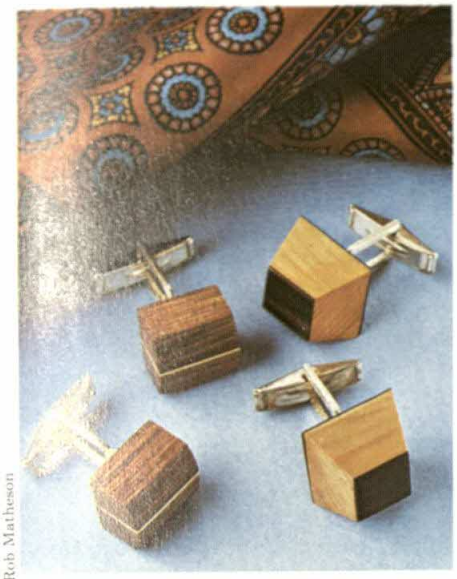
Dick Miller

Veneering and shaping plywood

Wood — modelling 2

If you tried your hand at the projects in Modelling chapter 1, page 266, then you will know something of the working qualities of dowel rods and plywood. You will, for instance, have discovered that plywood splits easily if it is cut carelessly, but that with care, the layers of wood or veneer from which it is built up can be creatively explored. You can use any existing plywood or thin piece of softwood, and glue an

Theo Bergström



Rob Matheson

Cuff-links made from bits of wood and veneer. Designed by David Willacy.

attractive veneer to the surface to completely transform the piece of wood. This allows you to make cuff-links and pendants from almost any bits and pieces, providing they have been finished with a new and attractive surface.

A veneer is a thin piece of wood, about the thickness of thick card, usually an attractive hardwood, used to finish man-made boards and softwoods used for furniture. Veneers are also used in marquetry and for restoring antique furniture.

As common red or white plywood is made from relatively plain and uninteresting veneers, it is the colour of the glue and its penetration of the wood which, in addition to the contrast of the alternate side and end grain of the veneers, which emphasizes and makes the cross section attractive.

Dark hardwoods, such as rosewood or streaky zebrano, are most attractive and no two pieces of the light birds-eye maple are ever the same. If the specific type you want is not available choose a veneer with interesting grain. Remember that the colour can always be enhanced by polishing. The glue used to laminate will bring out the colour.

To laminate veneer

Although common plywood is generally plain you can find off-cuts which have attractive hardwood faces, such as teak. However, you can build up or laminate your own pieces. Choose exotic veneers from a craft shop (the veneers are usually stocked for marquetry).

Left: plywood cut into abstract shapes lend themselves to being shaped with a file or Surform. The layers of plywood form flowing lines.

You will need:

Veneer—any odd number of veneers if you want to build up a complete piece or, if you want to add a different surface to an existing piece of plywood, 2 pieces of veneer to cover both the existing surfaces.

White wood glue.

G-clamp or vice.

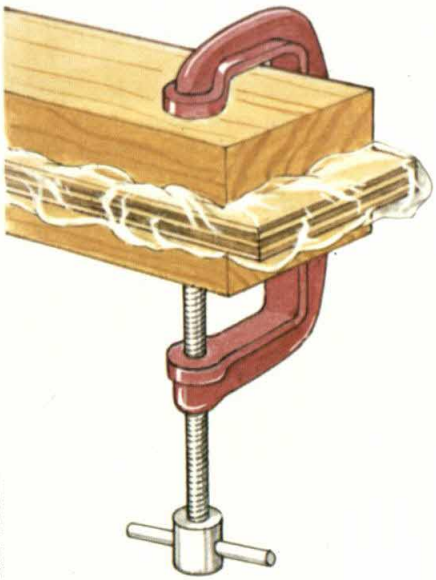
Polythene sheeting or bag.

☐ Glue both sides of the veneer surfaces, but excluding the surfaces which will form the outside or top and bottom of the plywood.

☐ Lay the odd number of veneers on top of, and grain at right angles to, each other.

☐ Sandwich them together and wrap them up in the polythene sheet.

☐ Protect the outside surfaces with a piece of wood or plywood and clamp in the vice or G-clamp to dry (fig.1).



Paul Williams

1. *Veneers, glued and wrapped in polythene, clamped together to dry.*

Do not work the laminate until it is dry.

You will now be confident enough to make up further quantities of your own plywood, using contrasting veneers such as sycamore and rosewood. *Always use an odd number of veneers, with the grain of alternate veneers at right angles to each other.* Glue the surfaces evenly and well to prevent the laminate from cracking. The contrasting veneers are the main feature, so use white wood glue.

Shaping the laminate

If you have not used plywood or laminated veneers before, obtain a few off-cuts—say up to 12mm (½″) thick—and practise shaping the surface using a Surform tool. You can use a countersink bit to make a more regular surface pattern.

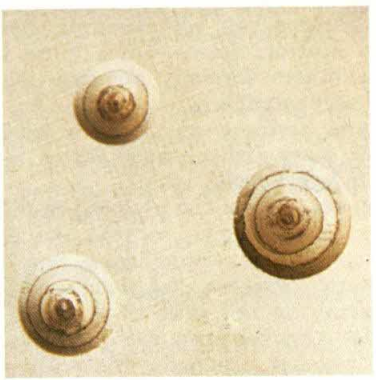
Tool box

Countersink bit

A countersink bit is, as its name implies, a drill bit used to enlarge a hole slightly so that when a screw is fitted, its head will fit into the recess made by the countersink bit. The screw head will then be flush with the wood surface. However the countersink bit—also called a snailhorn countersink—can be used on its own for decorative effects.

Dick Miller

If you drill a hole in plywood with an ordinary bit the layers of veneer will not show, but with a countersink bit the layers will show in concentric circles. These circles can be used in different sizes to decorate the surface of plywood.



Dick Miller

Needle files

Also known as Swiss files, these files lend themselves to very intricate work. They are about 12.5cm (5″) long and available in a variety of shapes, such as flat, half-round, round and triangular. They are usually used for intricate metal work—especially for jewelry—but are also useful for finishing fine woodwork—a practice some craftsmen frown on.

Dick Miller

Left: a hole drilled in a piece of plywood is enlarged with a rasp and shaped to show the various layers.

Jewelry

Pendants, brooches and belt buckles can all be made, as well as cuff-links. Glue jewellers' findings to the pieces to complete.

Drill a small hole to make a pendant and insert a jump ring (available from craft stores). Leather thonging is usually more attractive than a chain for this type of jewelry.

Brooch clips and cuff-link findings can also be bought and glued to the unpolished plywood using an epoxy resin adhesive.

It is easy to produce more than one item using these techniques. Cuff-links especially are very attractive made from veneers of assorted colours. A very small strip of veneer is sandwiched between contrasting hardwood. It is then shaped and cut to the required length with a fine saw (fig.2).

You can use a hand file to smooth the surface, and finish with a fine grade glasspaper before polishing. Ordinary wax polish will bring out the grain or you can coat it with polyurethane.

It is most exciting to use a newly discovered technique on a useful project, and a series of square tiles could be used for a wall panel or as part of a new top to fit into your occasional table frame.

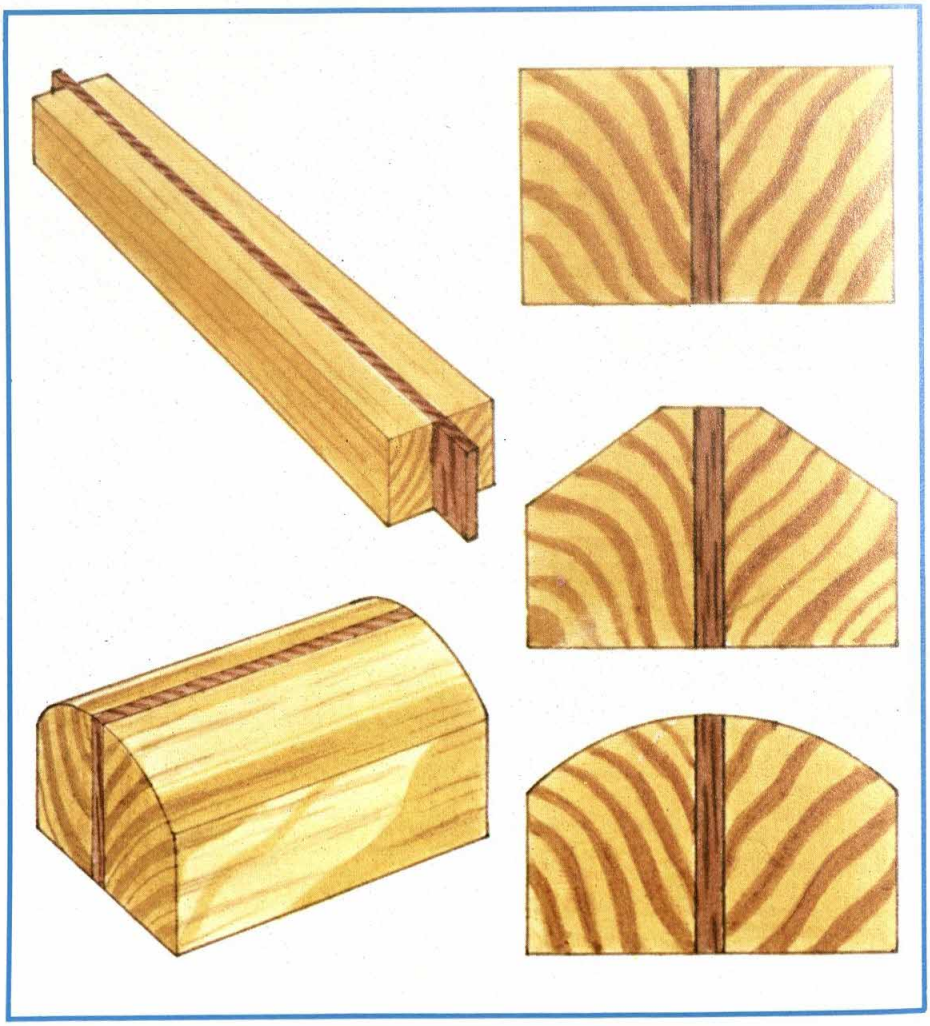
Longer pieces of off-cuts can be shaped in a similar way and used as sculptures or small dividing screens. It is not necessary at this stage to try and shape recognizable things. When you experiment you will discover attractive abstract forms—some quite free and others formally regular—which are very satisfying.

If you prefer working on a smaller scale start with plywood which is no more than 6mm ($\frac{1}{4}$″) thick.

Remove some of the plywood from the sides at an angle, so that the lines formed by the various layers flow in a pattern. Protect the surface from bruising in the jaws of the vice or under the G-clamp with a piece of flat wood or plywood—thick card will do.

Start with a piece 6.5cm x 5cm ($2\frac{1}{2}$″x 2″), and if you happen to produce an attractive design from this you can use it for a pendant. Experiment with your tools and work as cleanly as possible to keep finishing to a minimum. Finish by using fine grade glasspaper wrapped around a square wood block—for use on flat surfaces—or around a dowel rod for the concave surfaces.

As you explore the possibilities of cutting through the thin layers of veneer, you may need to work more accurately for intricate designs, in which case, jewellers' needle files—which vary in shape—are best. Take care in using them because they snap very easily.

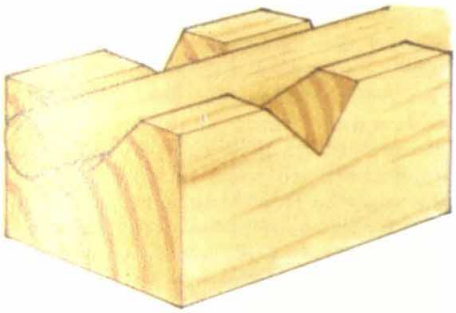


Paul Williams

2. *To sandwich a piece of veneer between bits of wood the veneer is left slightly larger than the wood. The laminate can be shaped in various ways to make cuff-links and jewelry.*

Dowel rods have a strong primitive appeal and are made most interesting by texturing the surface. You can add colour and arrange different lengths in an interesting way.

Cut V-shapes into a block of softwood and clamp it to help keep the dowel rod steady while you work (fig.3). Screw metal eyes to the dowel (or drill small holes) so that they can be suspended from a thong or a length of wire.



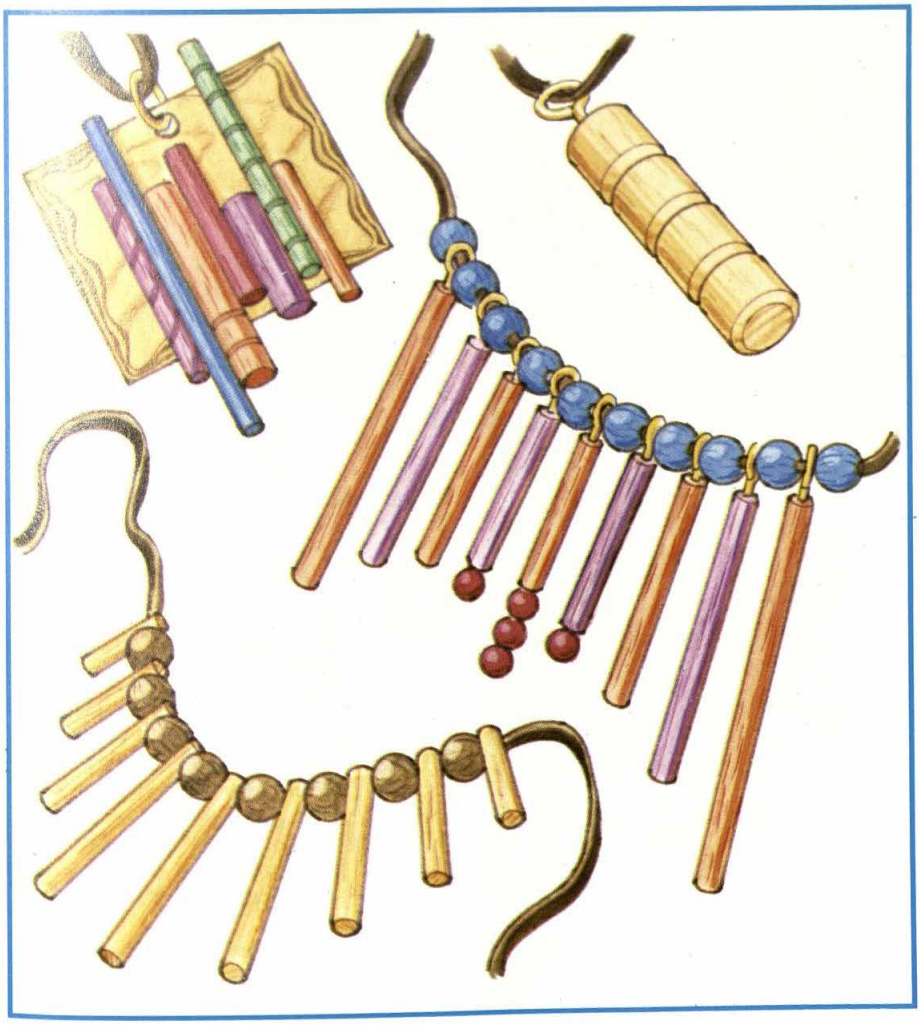
3. *Dowel supported in softwood block.*

The pieces of dowel can be combined with bought beads made of wood, or with something more colourful if you prefer. The pieces of dowel can also be glued to a laminated base and used for brooches or pendants (fig.4).

Theo Bergström

Above: veneers of contrasting colours used to make attractive jewelry.

4. *Combinations of plywood, wooden beads and dowels can also be stained.*



Polishing and finishing. Most wooden jewelry can be polished with cellulose lacquer (or clear nail varnish), applied with a soft brush. Make sure that you have cellulose thinners or nail varnish remover in which to clean the brush.

Apply two coats or more, using extra fine glasspaper between coats to get a good finish.

The veneer surfaces are also very attractive if left natural with a matt finish.

Wax polish can be used to keep the surface smooth and clean, but attach any necessary findings before waxing as glue won't hold on a waxed surface.

Design

The above techniques are easily developed and expanded. The materials used are simple, and for successful designs they need to be well prepared. They do not have to be complicated. Design does not just mean the pattern on the finished work, but includes its shape, colour, weight, fastenings and finish.

You may feel confident to work from sketches, but it is usually safer to draw full-size diagrams on graph paper. Make lots of drawings, each one a development from the previous one, and in the design include your working knowledge gained from the experimental work.

If you want to do more laminating on a larger scale, you can make candle holders from wood off-cuts and veneers of any thickness. Cut the layers slightly larger than the finished size, and arrange them according to colour. Glue and clamp them as before, and then shape to your design.

Preserving flowers

Michael Wickham

There are three basic ways of preserving plant material such as flowers, foliage, seed heads, leaves and grasses. Try them all if you can. If you can't, choose the method most suited to the facilities that you have available.

Air-drying. If, for example, you have an airy space with room for hooks or a line to hang the flowers on, then try the air-drying method.

Dessicant powder. Flowers dried out by the second method—in a dessicant powder such as borax or silica gel—may be easier for some in that the only space required is a large box to hold the powder and the flowers.

Glycerine. Plant material can be preserved with glycerine; the main requirements are some jars, bottles and the space to store them upright.

Details for each of these methods are given below, but before you begin preserving flowers you must know when to pick them so they will be in the best possible condition to give the best results. Also, some plants are more suited to one method of preservation than to others.

Gathering flowers

Try to cut the flowers on a dry, warm day when there will be a minimum of moisture on the plant surface. Never pick material when it is raining or when dew is forming. As a general rule, choose flowers just before they come into full bloom. Fully open blossoms, or flowers that have already begun to set seed, will merely shed petals and seeds as you attempt to preserve them.

Air drying

Pick the material and remove the leaves from the stems. Leaves that are left on will simply wither and tangle in the stems as they are drying.

If the flowers are fairly small, put them into small bunches and tie them with string or plastic ties, leaving a loop to slide on to a line or hook.

If you have chosen material with large flower heads, try to hang them separately. There is nothing more frustrating than to dry flowers perfectly and then to damage them in trying to disentangle the florets. As the material dries it will tend to shrink, so you may need to tighten the ties to hold the stems securely.

The bunches must be hung, well apart, on a line or on hooks in a cool, dry, airy and dark place. Too much light and warmth tend to make the material brittle and faded, and flowers become mildewed in damp surroundings.

Flowers with heavy or fragile heads can be dried by standing them upright

Many flowers can be preserved by simply hanging them upside down in a cool, dry dark place such as a cupboard.

in a jar. For this method make sure that the plant has a strong stem and that the head does not tend to droop. If the stems are very short, cut down to about 2.5cm (1") from the head and push a length of 0.9mm (19-20 gauge) florists' wire up the stem and into the flower head and push the end of the wire into a bed of sand or a piece of plastic foam. Leave the flowers to dry in this position.

The length of drying time necessary varies enormously. Delicate material such as grasses may only take a week, but heavier flowers, containing more moisture, may need three weeks or more.

The material should be checked to see if it feels quite dry and dehydrated before removing it for storage.

Hydrangea and molucella, both very popular in dried flower arrangements, require a little extra attention. The plants should be cut and stripped of leaves as usual. The stems should then be placed in about 5cm (2") of water and left in a warm room. When all the water has gone the stems should be tied, hung and left to dry as usual. (Cut hydrangeas on a new stem if possible.)

Material to choose for air drying. This list of plants is very far from being complete, but it is a guide to suitable material. If you would like to try drying a flower that is not included then there is nothing to lose in experimenting to see if it will work.

Rounded shapes. The following three flowers are often used in dried arrangements and are called everlastings: *ammobium alatum grandiflorum* (everlasting sand flower) has silvery-white petals and a domed yellow centre. It grows to about 0.6m (2') tall but the stems are short in proportion to the flower heads, so you may need to lengthen them when you come to arrange them; *anaphalis* (pearl everlasting) which has a grey leaf and a white flower and *helichrysum bracteatum* (straw flower) which has flowers rather like those of a stiff, shiny-petalled double daisy in an assortment of colours. This must be cut before the flowers are fully open.

Other rounded shapes are *achillea filipendulina* (garden yarrow)—dry by standing in an empty jar to avoid damaging the large flower heads; and *catananche coerulea* (cupid's dart).

Spiky shapes which can be air dried are *acanthus spinosus* (bear's breeches), useful for large arrangements; delphinium (pick as soon as the top floret opens, and dry hanging upside down), and *limonium sinuatum* (sea lavender).

Clusters which are effective in dried arrangements are *acacia dealbata* (mimosa)—the little yellow balls remain and hold some of their perfume; *eryngium* (sea holly)—cut before the seedheads mature; and *gypsophila elegans* (baby's breath).

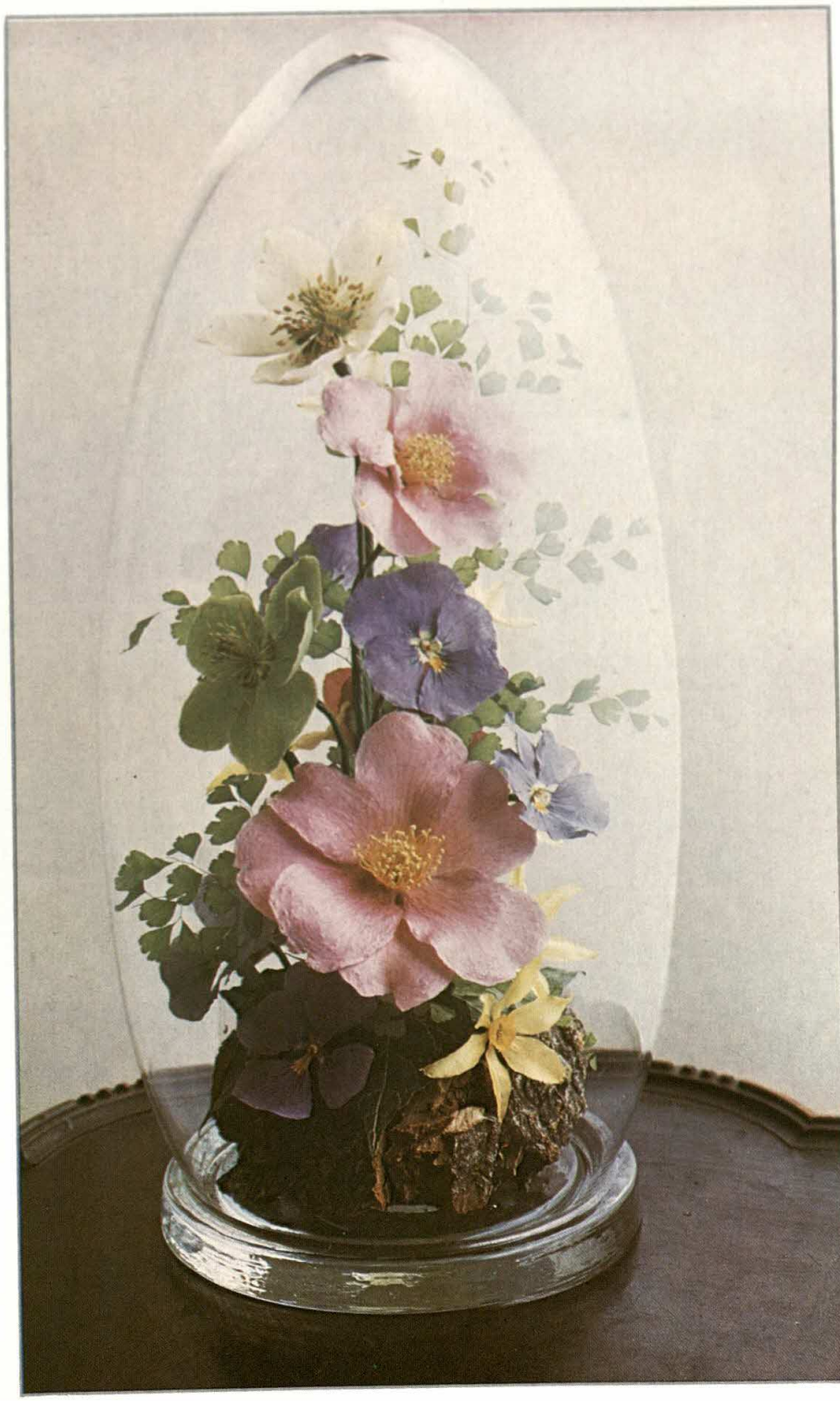
Leaves and grasses include *aspidistra* (parlour palm); *briza maxima* (pearl grass) and *lagurus ovatus* (hare's tail).

Seedheads include *alliums* (dry upside down if possible); *aquilegia* (columbine); *dipsacus fullonium* (teasels); and *lunaria* (honesty).

Fruits and cones can be opened by drying in a cool oven while *cucurbita* (gourds) should be ripened by hanging them up by the stems or by placing them on a tray and turning frequently.

Drying flowers in powder

The powders used in this method are borax, silica gel crystals, or sand, and of these silica gel is probably the best. It dries flowers efficiently and the crystals are very light and therefore



Chris Holland

Silica gel crystals preserve delicate blossoms and help retain vivid colours too. Preserved with Lasting Flower.

Dick Miller

With a dessicant powder, floral wire, tape and foam you can make beautiful life-like arrangements.

less likely to crush delicate blossoms. Furthermore, silica gel crystals can be dried out in a warm oven after use and then used again. Both silica gel and borax can be bought in pharmacies.

The advantage of drying in powder is that flowers preserved by this method retain much of their original colour. Some silica gel preparations on the market, such as Lasting Flower, have additional chemicals which help retain vivid hues to a truly amazing degree. But these flowers are susceptible to damp and if your room is not fairly dry they should be kept under glass.

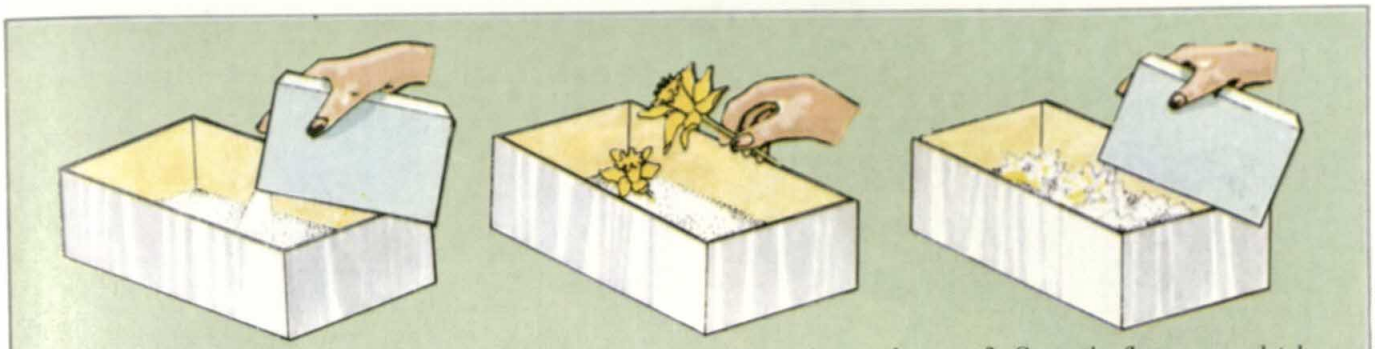
Before beginning to use a dessicant powder, the flowers must be dry and in good condition. Any of the powders may be used, although sand tends to be rather heavy for delicate petals.

Cover the bottom of a box or biscuit tin with the powder, carefully lay the flowers on this and pour over more powder (fig.1) so they are completely covered. Take care that there is plenty of powder between the petals and stamens. Leave them, and the powder will draw the moisture from the petals. Make sure that you do not add any moisture to the mixture by putting the box in a damp place. The box should be kept in a warm, dry place.

The length of time it takes to dry the flowers again varies. To test, gently scrape off powder from a petal; if any trace of moisture remains, re-cover and leave. Most flowers take about two days to dry completely.

When they are dry, remove and store them in a dark place. You could store them in a box, adding a few crystals of silica gel to absorb any moisture.

Florists' wire to support the stems can be added before or after drying. (For methods of mounting with florists' wire see Flowers and plants 3, page 524.)



1. *Pour dessicant powder into a box.* 2. *Place blossoms carefully in the powder.* 3. *Cover the flowers completely.*

Sue Richards

Material to choose for powder drying. This method is more suited to flowers than foliage. The more simple and open-faced flowers are best—anemones, marigolds, daisies and cornflowers, for example. Small roses can be very successful if you make quite sure that the powder is well distributed among the petals. Larger specimens tend to work less well.

Preserving in glycerine

This process replaces the water in the plant with glycerine, giving a supple and quite lasting result. Glycerine looks like a clear, syrupy liquid.

Stems should be placed in water for a few hours before putting them in the glycerine. Make sure that the material is in good condition before you begin—attempting to preserve damaged leaves is a waste of effort. Woody stems should be split to make sure that the glycerine can travel up them.

Make a mixture of two-parts water to one-part glycerine and place the stems in about 10cm (4″) of the liquid. Leave for about two or three weeks when the leaves should become supple and change colour. Remove from the glycerine mixture and, if the leaves begin to droop, hang them upside down for a few days to make sure that the glycerine reaches to the top.

Plant material to be preserved by this method should be gathered before the dying autumn colours begin to show—if you leave it too late, the plant loses its power to absorb liquid.

Material to choose for preserving in glycerine include *clematis vitalba* (wild clematis)—the flower heads do not disintegrate and the leaves turn deep bronze; *hydrangea; molucella laevis* (bells of Ireland)—preserve these in a dry place to avoid mould. The mixture may not be able to reach the upper flowers, so it is helpful to remove a few top flowers before you begin; *polygonatum multiflorum* (Solomon's seal).

The glycerine method is particularly suitable for leaves—here is a brief list of some of the possibilities: *Aspidistra lurida* (parlour palm)—process may take up to six months; *convallaria majalis* (lily of the valley)—leaves may be completely submerged in the mixture; *fagus sylvatica* (beech)—pick while still green and fresh. Beech nuts left on the branch will also be preserved; *helleborus* (Christmas rose); *magnolia grandiflora* (magnolia); *quercus* (oak); and *rhododendron*.

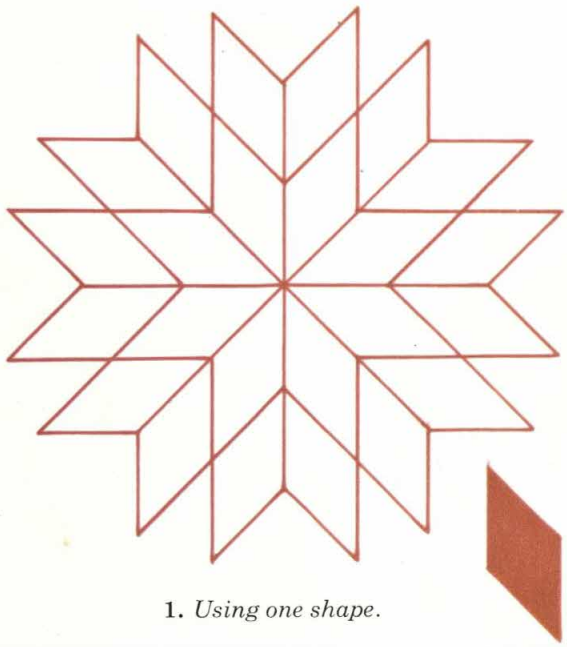
Leaves and foliage can be preserved by standing in one part glycerine, two parts water. They often change colour.

Dick Miller

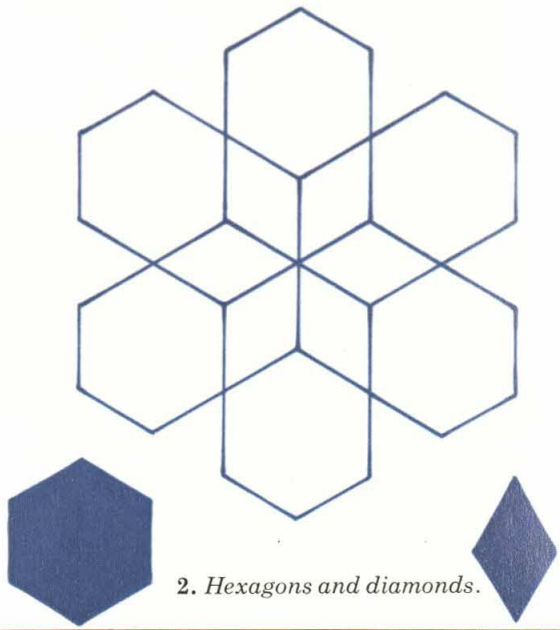
More about geometric pattern

Design know-how 21

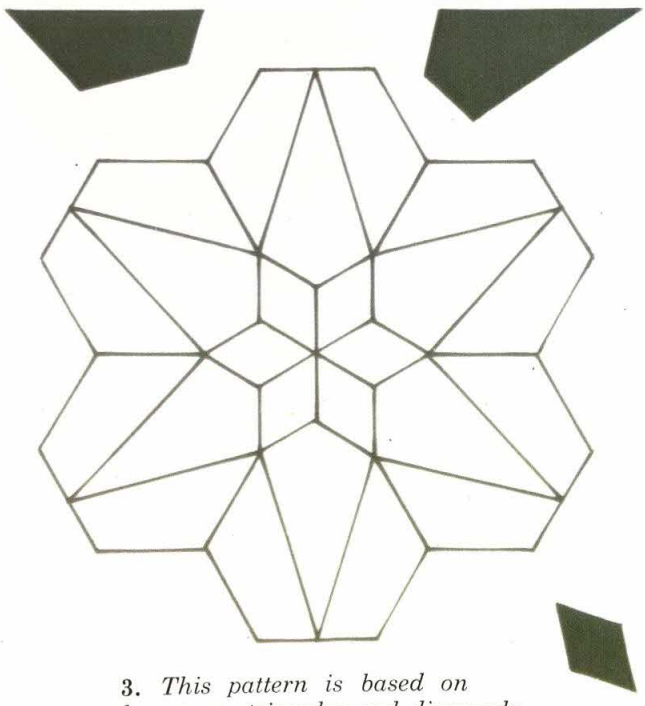
The Design know-how chapters on polygons showed how to draw all sorts of shapes—from triangles to octagons. When these shapes are combined to build up patterns, they usually conjure up cloth patchwork. But the same sort of patterns can be combined to make interesting related patterns which you can use for all kinds of crafts. You will be able to decorate boxes with cut-out paper shapes, create borders and edgings and paint patterns on wood, metal or plastic. All kinds of surfaces can be embellished with these patterns. Here are a few geometrical patterns which you may like to play around with—matching up one with another, seeing which ones go well together—until you get the design you want.



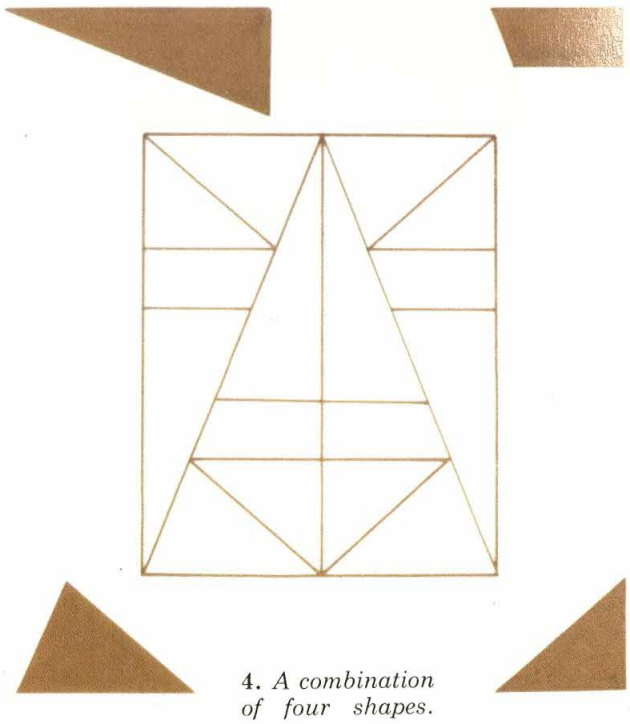
1. *Using one shape.*



2. *Hexagons and diamonds.*



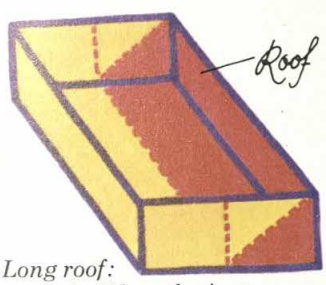
3. *This pattern is based on hexagons, triangles and diamonds.*



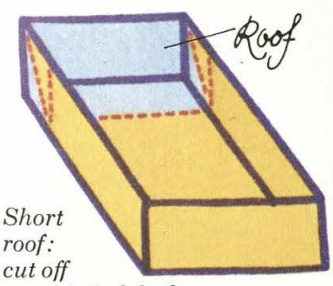
4. *A combination of four shapes.*

Trevor Lawrence

Creative ideas 21



Long roof: cut in half lengthwise; trim ends into a triangle.



Short roof: cut off top third of the box. Trim ends into a triangle.

Victoria Drew

Match-box houses

Children like toys, but not all parents like the price they must pay for a toy that will fall apart after a few hours of childish enthusiasm.

These toy houses are the answer, made from empty match-boxes, scraps of coloured felt and paper, bits of ric-rac, ribbon—any decorative trim that can be glued down.

They are incredibly easy to make; all you do is cut up the inside of the box, as shown in the diagram, and cover the sleeve in felt or paper. Add windows and doors, and cover the roof with a scrap of something textured that looks like tiles. Use a fast-drying glue such as UHU.

Children can turn town planners by marking out streets and grass in pieces of green and grey paper.

PS. It is very important to remove all matches when giving the boxes to children.

Iain Reid

Make decorative match-boxes by covering in felt and applying shapes with glue. Designs by Laura Balston.

Working with cullet

There are all sorts of attractive glass objects you can make with a sheet or two of clear glass and a few pieces of coloured cullet (broken glass).

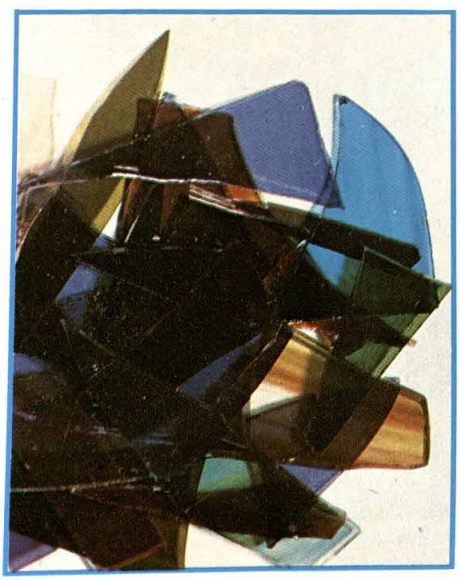
The materials used are simple, but the results are very effective. You will be able to decorate any flat glass surface and make such things as a candle shade or a decorated panel.

Cullet. A bag of small pieces of coloured cullet can usually be bought by weight as off-cuts from most glass merchants. You will be lucky if you can get hold of red glass since this is more expensive than other coloured glass. Alternatively, you could buy small sheets of stained glass from a stained glass supplier and cut them into shape yourself. Glass mosaic tesserae can be bought from any craft shop and these will do at a pinch.

One way of breaking glass into small pieces is to wrap it in several sheets of newspaper and gently tap with a hammer to create random shapes. Unwrap the newspaper carefully, pick out the pieces while wearing canvas gloves, and carefully wrap the newspaper round the remaining glass fragments before putting them in the dustbin.

This method of breaking glass is particularly suitable for any 'found' glass which you wish to use as cullet for a design. Look in the kitchen and the medicine cupboard for plain, green and blue bottles. The bottoms of these bottles will give flat pieces of glass, and you can use the sides for curved shapes. Bicycle reflectors and brake lights give red glass. Look around you and see what you can find.

Brightly coloured broken glass is useful for cullet projects. Most glass suppliers sell cullet by weight.



Dick Miller

The candle shade

This is basically an open-ended glass box, 17.5cm x 12.5cm (7″x5″), decorated with cullet pieces. Put it on your table, place a candle inside and light up the room with soft, reflected light. The shade will also protect the candle flame from draughts.

You will need:

Four pieces of window glass 12.5cm (5″) wide and 17.5cm (7″) high. For base: piece square glass with sides 12.5cm (5″) + thickness of the glass used.

Glass cullet in various colours to your choice, about ½kg (1lb).

Epoxy-type adhesive such as Araldite Rapid.

Fine wet and dry silicon carbide paper.

Methylated spirits.

Pencil and ruler.

Sheet of white paper.

Masking tape.

If you intend to cut the glass yourself (optional) you will need a glass wheel cutter.

The basic box. Ask a glass merchant to cut a piece of window glass into the sizes you will need, or else cut the glass yourself, using the method described in Glass chapter 4, page 450.

The measurements given above are a guide only; the candle shade may be smaller or larger, although with a smaller version you may have difficulty in fitting a candle inside.

☐ Make sure that the edges of the glass are free from grease by carefully wiping with a cloth dipped in methylated spirits.

☐ Lay down newspaper and rub the edges with moistened wet and dry paper to remove any sharp, jagged points.

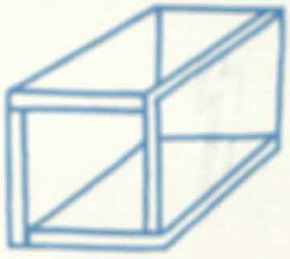
Right: the candle shade lights up the dinner table; it is equally at home as a night light or out of doors. Designed by Anthony Wilson.

Melvin Grey

Caution. Do not forget to wrap any glass fragments in the newspaper and put in the dustbin. Avoid sweeping your hand against glass fragments.

Gluing. The four long pieces of glass glued together will make an oblong, box-like shape, open at each end.

Since epoxy adhesives such as Araldite Rapid harden very quickly, only mix enough glue for one edge at a time.



1. *Four long pieces of glass and a square base make up the basic shape.*

Victoria Snow

2. *Glue the edges of the glass one at a time, hold in position and wait for the adhesive to harden.*

☐ Spread a little glue along one long edge and press another edge on to it (fig.2). Hold in place until the adhesive sets hard.

☐ Glue the other long pieces of glass in the same way.

☐ When all the sides are set, glue the square base in position (fig.1).

The design. Sort through your cullet, selecting different shapes, sizes and colours.

☐ Draw four rectangles on a sheet of paper the same size as the sides of the candle shade.

☐ Arrange the cullet on one of the rectangles. Be sure to leave enough cullet to decorate the other panels.

☐ Make different arrangements of the cullet for the other three panels.

☐ Take another sheet of paper and, with a pencil, copy the designs you have made with the cullet. Mark in the various colours you have used.

☐ Firmly tape the designs to the inside of the glass box.

☐ Wipe the glass with methylated spirits to remove grease.

☐ Lightly rub the edges of each piece of cullet with wet and dry paper. This is a fiddly job but a precaution against cuts and scratches.

Gluing. Put a drop of adhesive on to each cullet piece and, following the design, hold in position until stuck. The glue will show when it is hard so bear this in mind when applying it. Use the very small pieces for filling in odd gaps. Work quickly as this glue hardens in a minute or two.

You can build up a three-dimensional pattern by sticking one piece of cullet on top of another piece. The light refractions thus created will look particularly attractive when a candle is burning inside.

☐ Repeat for other three sides. You don't need to keep to the same pattern for each side. You could even take the design all round the shade in a continuous line, not interrupting the pattern at the edges.

Different sides of the candle shade: work out each design in advance.

Melvin Grey

The fish panel

As an alternative to the above method of sticking cullet to a glass sheet, you may like to try the technique used for making the fish panel illustrated. In this method ordinary tile grout is used to fill in the gaps between the cullet. The grout gives an opaque line to the design. The light will shine through the glass but not through the grout. An added advantage is that the grout will cover up all the sharp edges of the glass, even if the pieces of cullet are of marginally different thicknesses.

You will need:

One piece of window glass, 53cm x 38cm (21"x15").

Glass cullet, about 1kg (2lb).

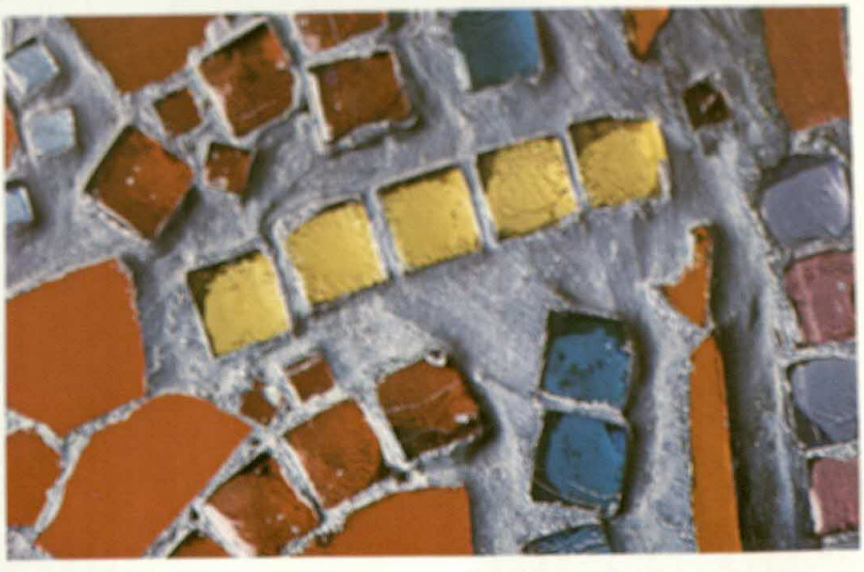
¼kg (½lb) ordinary tile grout, suitable for filling the interstices between the cullet.

The fish panel is made in a similar way to the candle shade using a clear glass base and coloured cullet.

Brown or grey powder colours, such as poster paint, to colour the grout.
Other materials as for the candle shade, plus a wooden spatula or smooth stick for mixing the grout.

☐ Stick the cullet pieces to the glass as described above. When all the cullet is stuck fast, fill in the spaces between with tile grout, coloured brown or grey with powder colours. Follow manufacturers' instructions for mixing up the grout.

☐ The panel looks best if placed in front of a window or other source of light.



A close-up of the fish panel; the glass is surrounded by the grout which fills any gaps and gives an opaque finish.

Dick Miller

Beaded and knotted designs

Beads and macramé knots combine together to make lovely fringes which may be either worn on their own as necklaces or added to articles such as belts, curtains, roller blinds, bedspreads and lampshades. Or add a fringe to a circle of material to make one of those adorable little milk jug covers that former generations used.

When choosing the yarn and beads for fringes, bear in mind the weight and texture of the article you are decorating and use appropriately sized beads and yarn. The best effect is usually obtained when shiny beads are used with matt yarn, and vice versa. Also, strongly contrasting colours will give an exotic effect, while similar shades or tones will give a more subtle appearance.

Lots of beads and a few knots means that the fringes grow quickly, because it only takes moments to thread on a few beads, and they give a richness to even the plainest articles.

Orange and black necklace

You will need:

Two strands black, 60cm (24″) long.
Two strands black, 180cm (72″) long.
Eight strands black, 90cm (36″) long.
Two strands orange, 90cm (36″) long.
Ten strands orange, 60cm (24″) long.
46 yellow glass rotelle beads.
1 long orange wooden bead.
Clear glue.
Hook and eye.

☐ Lay two black 60cm (24″) strands and one black 180cm (72″) strand horizontally on a board and pin them securely in place.

☐ For the centre section, mount two orange 90cm (36″) strands and four black 90cm (36″) strands either side.

☐ For the side sections, mount five orange 60cm (24″) strands on each side.

☐ Lay the remaining 180cm (72″) black strand parallel to the mounting knots. Make double cording knots over it with each strand.

Side sections. With the centre two strands as knot bearers leading to left and right, make double cording knots over them.

☐ Make a flat knot with the centre four strands.

☐ Thread three beads on the centre two strands. Make an overhand knot and finish each strand with overhand knots.

☐ Finish all the other strands with overhand knots.

Centre section. With the centre two strands as knot bearers leading to left and right, make double cording knots over them.

☐ Counting from the centre, thread a bead on the second and every alternate strand on both sides.

☐ Use the centre strands as knot bearers and make double cording knots over them to left and right as above.

☐ Tie a flat knot with the centre four strands. Thread a yellow bead over two strands and the long orange bead over one strand.

☐ Make double cording knots over the knot bearer just used, working towards the centre and including the strand that was by-passed by the orange bead.

☐ Counting from the centre, thread a bead on the second and every alternate strand, which means that there will be five on the left and four on the right.

☐ Using the outer orange strand as knot bearer, make double cording knots over it towards the centre.

☐ On the centre two strands, thread a bead, make a flat knot with four strands, and repeat three times more.

☐ Finish by threading beads on the two outside strands and tying overhand knots. Tie overhand knots on the two centre strands.

☐ Finish the four strands either side with beads, and secure with overhand knots. Tie overhand knots with the remaining strands.

☐ Trim the ends fairly close to the knots. The decoration is now complete.

To make the neckband. Work fifteen flat knots each side of the decoration, or until the neckband is the required length.

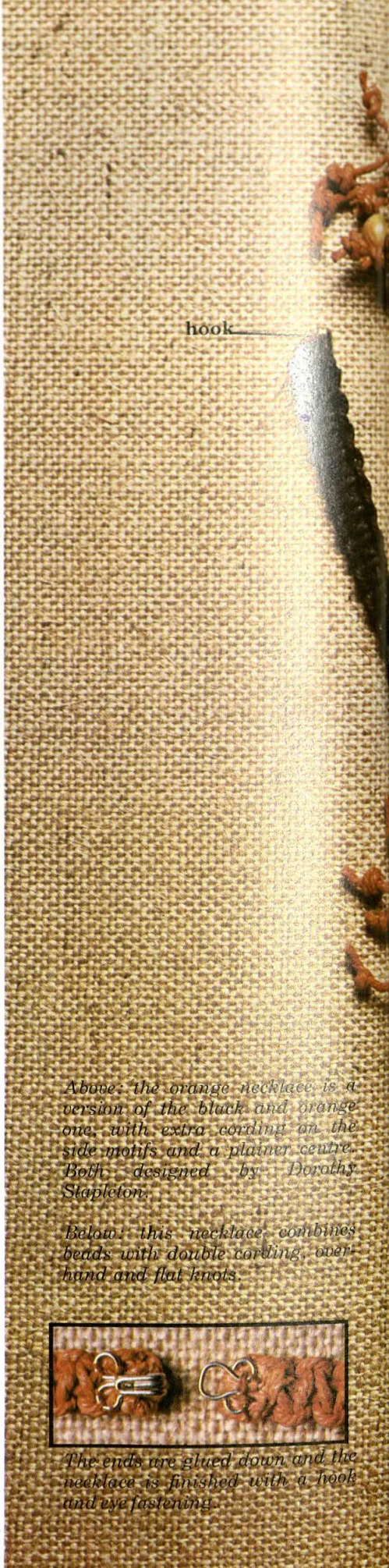
Trim the strands and fray the ends.

Dab a little glue on the ends and press them to the wrong side of the neckband.

When the glue is dry, sew the hook and eye to the wrong side of the neckband. The necklace is now complete.

The orange necklace

This is made in the same way as above,



Above: the orange necklace is a version of the black and orange one, with extra cording on the side motifs and a plainer centre. Both designed by Dorothy Stapleton.

Below: this necklace combines beads with double cording, overhand and flat knots.

The ends are glued down and the necklace is finished with a hook and eye fastening.

Theo Bergström

Steve Bicknell

Left: work the decoration for this necklace from the chart shown right, and then finish the neckband in flat knots for the required length.

with slight variation in the side decorations, raised beads in the centre and a simpler finish for the centre strands.

Blue and red necklace

To get the size right for the necklace measure your neck and add on 1.5cm (½″). This is taken up by the fastening. The necklace decoration is set into the centre 12cm (5″) of the neckband, and it is the flat knot chains on either side which are increased or decreased as necessary. The measurements given here are for a 31cm (12½″) neck.

You will need:

Spool rayon seating yarn.
212 beads in one colour.
52 beads in another colour.
Clear glue, scissors.

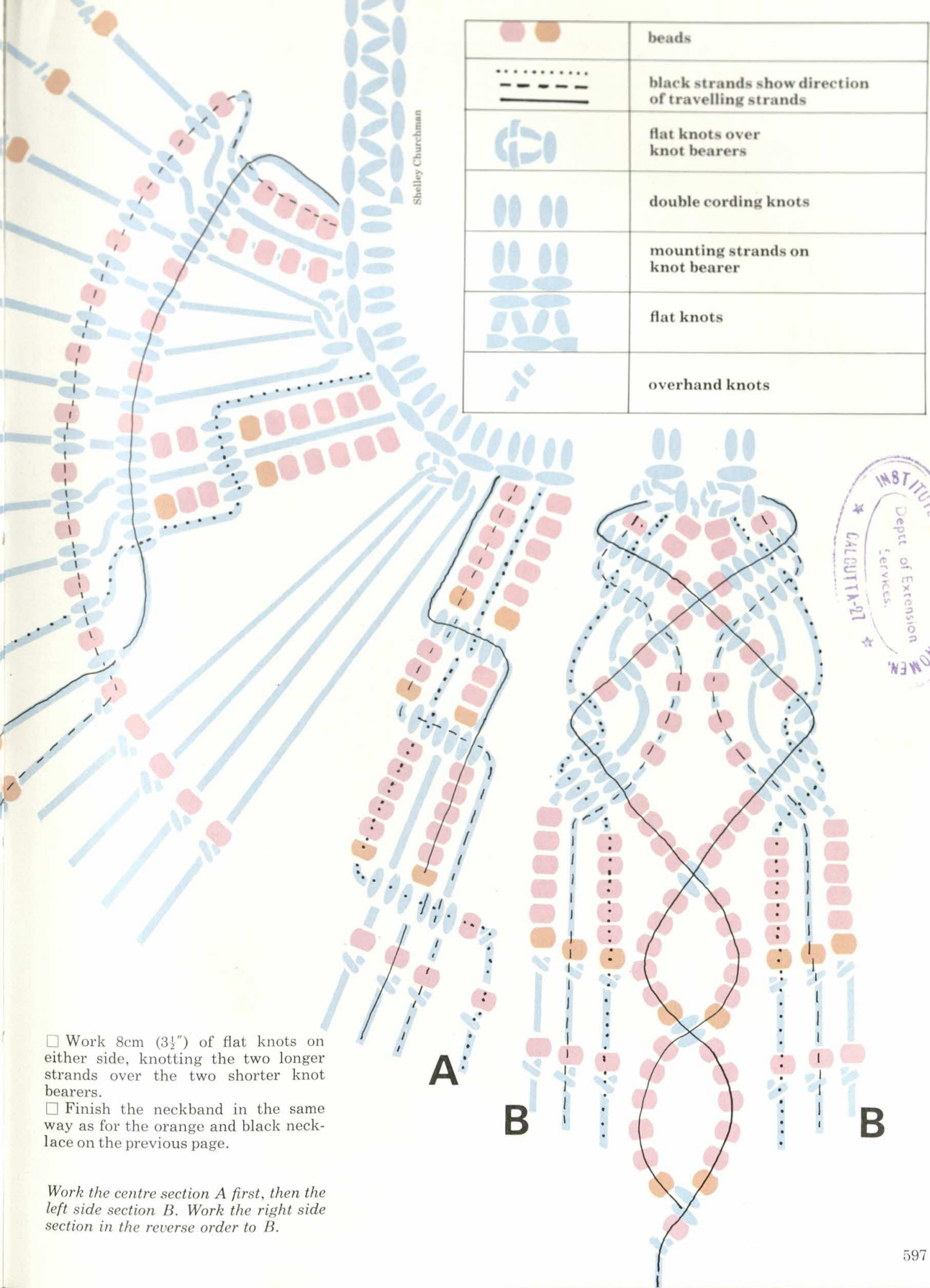
☐ Cut two strands three times as long as the neck size, and two strands five times as long as the neck size.

☐ Pin the strands 25cm (10″) from one end to a board in the following order, 1 long, 2 short and 1 long.

☐ Cut 22 strands 80cm (32″) in length, and mount them on the centre part of the neckband.

☐ Work the pattern according to the diagram.

Lay the strands out straight and cut off the ends with scissors to within 1.5cm (½″) of the ends. Comb out the ends to form tassels.



☐ Work 8cm (3½″) of flat knots on either side, knotting the two longer strands over the two shorter knot bearers.

☐ Finish the neckband in the same way as for the orange and black necklace on the previous page.

Work the centre section A first, then the left side section B. Work the right side section in the reverse order to B.

Covering a net shape

Cloth — millinery 2

Millinery chapter 1 deals with some of the basic techniques and equipment used in hat making, and gives instructions for trimming a bought straw shape with fabric.
This chapter discusses bought net shapes and gives instructions for

Bridal head-dress made from a buckram Juliet cap covered with georgette and trimmed with artificial flowers.

Steve Bicknell

covering a buckram shape with fabric to make a delightful bridal head-dress or summer hat.

Net shapes. Some shapes are made of stiff open mesh ('breton') net and others are moulded from fine buckram. They are all edged with wire and should be covered with a firm binding. A Juliet cap is a good shape for a beginner. Avoid large-brimmed styles as covering a brim successfully can be very tricky.

All these nets are not very durable so remember that fabrics used to cover the shape must be very lightweight. Avoid getting the shape damp or it will become distorted.

Net shapes can be bought on the haberdashery counters of many large stores.

The bridal cap

The cap in the photograph is covered with fine rayon georgette which has been arranged in deep, overlapping pleats. This ensures that the buckram is well concealed by several layers of the semi-transparent fabric.

Note: For millinery back stitch and information on head ribbons, see Millinery chapter 1, page 576.

You will need:

A buckram Juliet cap shape.
90cm (1yd) rayon georgette.
About 45cm (½yd) satin.
3cm (1$\frac{1}{16}$″) steel pins.
Narrow petersham ribbon to fit the headline.
Hair comb.
Straw needle No.7.
Matching thread (Sylko No.50).

☐ Measure the depth of the shape from the top of the crown to the lower edge, and add about 4cm (1½″) to this measurement. Cut strips of georgette on the cross to this width and as long as possible.

☐ Pin the fabric in deep, overlapping pleats to cover one half of the shape. Pins should be placed in each pleat at the headline edge and in a line over the top of the shape.

Dick Miller

Half-made cap illustrating how to pin pleats at the headline and showing millinery back stitch worked over crown.

Steve Bicknell

Juliet cap as a summer hat: it is made up in the same way as the bride's cap except that a strip of georgette is laid over the crown in lieu of satin.

☐ Turn the raw edges to the inside and stitch with millinery back stitch to the binding. Trim turning to 1.5cm (⅝″) (fig.1).

1. *Georgette stitched on to the binding.*

☐ Stitch the pleats flat over the crown using millinery back stitch and trim away the excess fabric close to the stitching to reduce bulk.

☐ Cover the other half of the shape in the same way.

☐ Cut a bias strip of satin 4cm (1½″) wide and long enough to go over the top of the shape, plus 1.5cm (⅝″) at each end for turnings. Turn in 6mm (¼″) along each raw edge and press.

☐ Lay the satin strip over the crown to conceal the raw edges, pulling it down firmly to make sure it settles smoothly over the curve.

☐ Turn the ends to the inside of the shape, and stitch in position in the same way as the georgette, trimming ends to 1.5cm (⅝″) if necessary.

☐ Slip stitch the satin strip firmly, but invisibly, in place along the back long edge.

☐ Stitch a narrow head ribbon inside the cap on the headline, using small slip stitches.

☐ Stitch a hair comb to the head ribbon at the centre front (fig.2).

Paul Williams

2. *Hair comb stitched to head ribbon at centre front of the finished cap.*

Trimming the cap

The flowers should be arranged to suit the bride's features. They could give height to the top of the cap, or be arranged in a circlet around the head. Secure each flower with a few strong stitches.

On this cap the flowers are clustered over the temples. The veil is gathered and stitched to the head ribbon so that the fullness springs from the same position.

Real flowers, or stylized ones cut from fabric or lace, could be used instead of the traditional artificial flowers.

Starting the tapestry sampler

There are various tapestry techniques which are used to create the definition between colour and image. The sampler shown incorporates the basic shapes—lines, diagonals, circles, diamonds—which you will need when creating your own designs. Even the most elaborate medieval pictorial tapestries used these basic methods to create their intricate images.

For clarity, only the two 'colours' of black and white are used, but a different range of colourways can transform a design into something entirely different.

Making a cartoon

Before starting to weave a tapestry it is often advisable to work out the design on paper. Many weavers find it helpful to make the paper design the same size as the final tapestry and to hang it behind the warp threads of the loom as a pattern from which to weave. This sort of accurate pattern is known as a cartoon.

To make the cartoon

You will need:

Sheet of white paper 73cm x 41cm (29″x16″).

Black felt-tipped pen or black gummed paper.

☐ Mark off the paper into 2.5cm (1″) squares.

☐ Each of the squares on your paper is represented by a square in fig.1. Using the felt pen or the gummed paper, black in the relevant squares.

☐ Pin this behind your frame loom (see Weaving chapter 6, page 572) so that you have an outline to follow.

☐ Working from the bottom to the top, the sampler is marked into sections. Section one is dealt with in this chap-

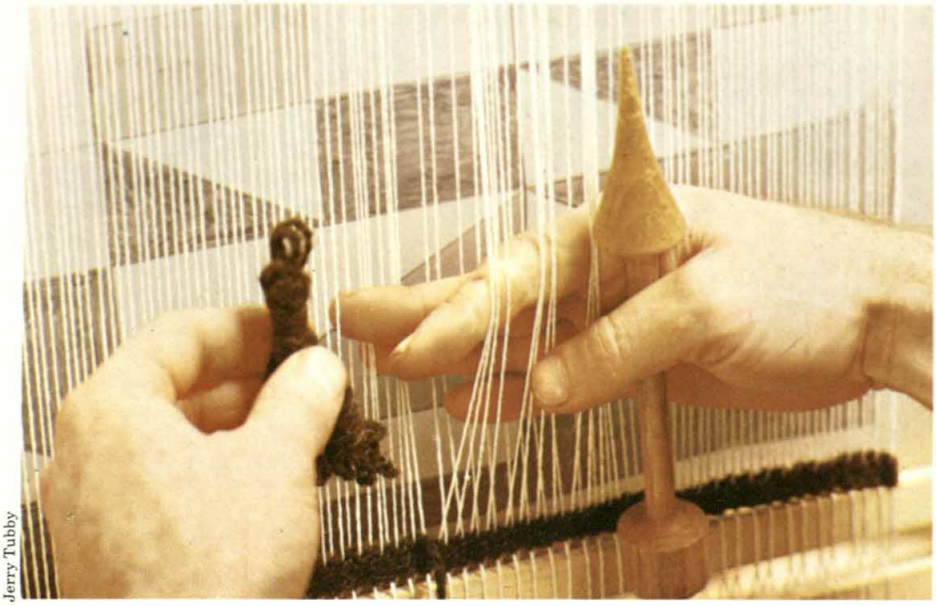
Dick Miller

Above: the finished tapestry. Right: the designer of the sampler, David Hill, working at his loom with the cartoon positioned behind the warp threads.

Jerry Tubby

Trevor Lawrence

1. *The pattern for the tapestry sampler. Each small square represents 2.5cm sq (1 square inch) when making a full-size cartoon to hang behind the loom.*



Jerry Tubby

Pick up alternate warp ends and thrust your hand into the shed to hold the two sets of threads apart.

ter, with the remainder of the sections being explained in the next weaving chapter.

Tapestry sampler

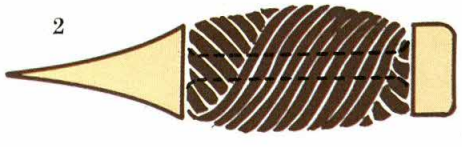
An elegant wall hanging, 71.5cm x 41cm (28½″x16″) which combines most basic tapestry shapes.

You will need: 200gm (½lb) of both black and white three-ply rug wool. If three-ply rug wool is unavailable, ask your supplier for an alternative. A two-ply wool with a different twist may be suitable (see Weaving chapter 5, page 374).

Frame loom, 106cm x 60cm (3′6″x2′) warped with 6/9s cotton twine, eight ends per 2.5cm (1″) (see Weaving chapter 6, page 572).

About six 10cm (4″) tapestry bobbins. Tapestry bobbins can be difficult to obtain and many weavers do not use them. The sampler can be worked without any bobbins at all, but the pointed end of the bobbin is useful for beating down the weft between the warp. It is worth finding out if you like to work with one.

Preparing the weft. Wind some of the black weft yarn tightly around a tapestry bobbin (fig.2). Be careful not to overfill the bobbin—apart from the difficulty in passing it through the



2. *Tapestry bobbin wound with yarn.*

warp, there is also the danger of the yarn slipping off.

Alternatively, the yarn may be wound into a tight lozenge shape instead of on to a bobbin (fig.3).

3. *If you do not have a bobbin, the yarn can be wound into a lozenge shape.*

Section one

The first section of the tapestry is a solid 2cm (¾″) band of black. This section not only gives you a chance to practise weaving, but the rows of plain weave also serve to space the warp threads evenly.

Weaving from right to left. To start off your weaving, hold the bobbin in the right hand and use the left hand to 'make a shed' (to lift alternate warp ends so that the bobbin can be passed behind them).

To make the shed. Start about 5cm (2″) in from the right selvedge and work back to the selvedge picking up the alternate threads with the thumb and first finger of the left hand. The two threads at the end should be treated as one as they form the selvedge.

☐ Then, by thrusting the left hand into the horizontal position behind these threads, a space (the shed) can be made between those warp ends in front of the hand and those behind.

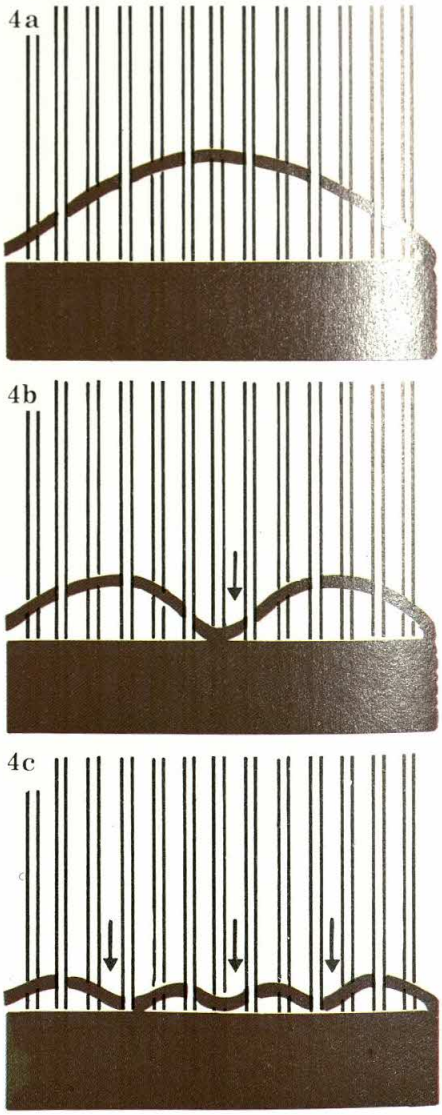
☐ Pass the bobbin through the space created and from the right hand to the left.

☐ Keep the bobbin vertical to prevent too much weft from winding off.

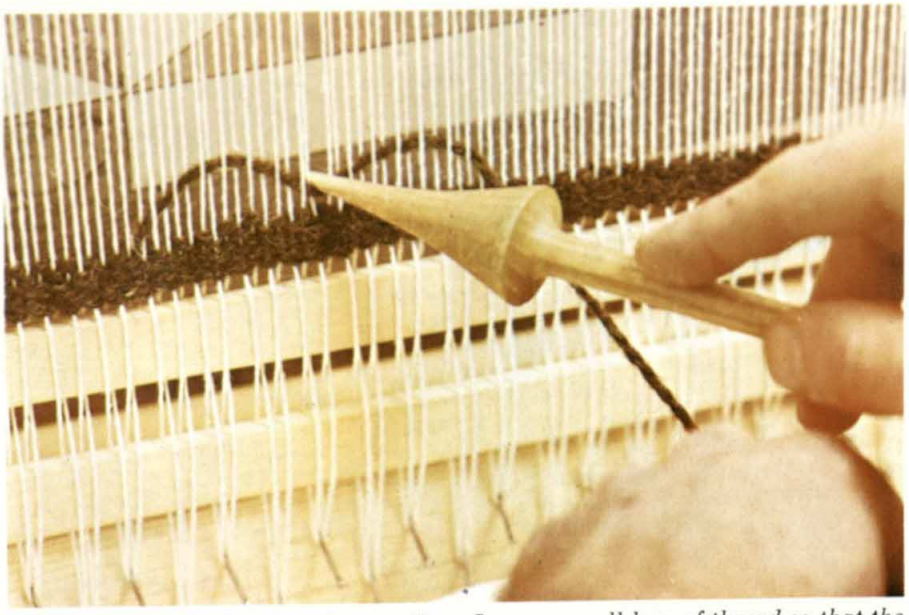
☐ Continue this process by weaving small sections until the left hand side is reached. The last two threads should also be treated as one to form the other selvedge.

Tension. When the weft has been passed through, do not pull it tight, but form a small loop (fig.4a). It is important

Pass the bobbin or lozenge from one hand to the other through the shed. Pull the wool gently through.



4a,b,c. *Leave a loop of weft and beat with the point of the bobbin.*



Leave a small loop of thread so that the weft is not too taut. Beat down the slack with the point of the bobbin or any other smooth pointed object.

to leave this small loop before beating down, as a tightly pulled weft will result in the edges of the tapestry moving inwards as well as making it difficult to cover the warp properly.

On the other hand, if you leave too big a loop the width of the warp will begin to increase and loops will stick out from the face of the weaving. The correct amount of slack will be achieved with practice.

After forming the loop beat it down with the point of the bobbin (whilst holding the bobbin end of the weft) as shown (figs 4b and 4c).

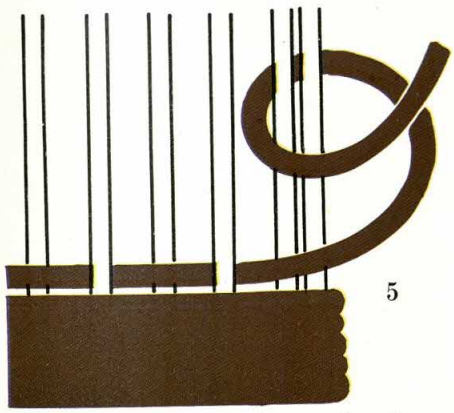
Weaving from left to right. Pass the weft around the two threads of the left hand selvedge.

☐ With the fingers of the right hand, lift the warp ends which lay behind the weft in the previous pick.

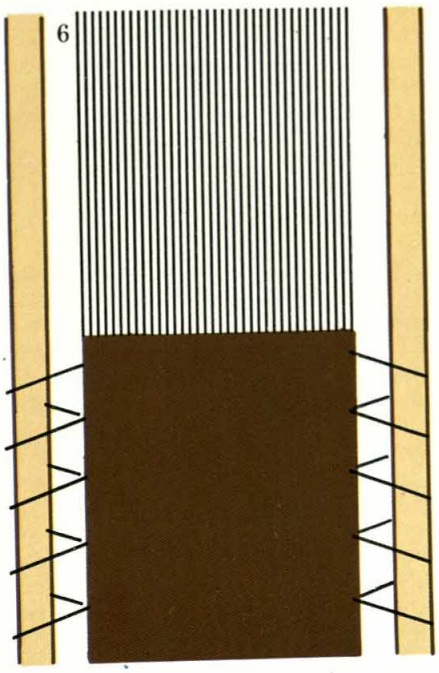
☐ Make the shed by thrusting the hand into a horizontal position as before, and pass the bobbin through from the left to the right hand.

Selvedges. During the weaving, care must be taken to keep the selvedges firm and straight. Then after each 1.5cm ($\frac{1}{2}$″) of weaving, take the weft twice around each selvedge (fig.5). This is necessary because the weft usually beats down more closely at the selvedge and this adjusts the level.

If any difficulty is experienced in preventing the edges of the tapestry from moving inwards, they can be kept straight by lacing the selvedges to the side of the weaving frame (fig.6).



5. *An occasional extra loop at the selvedge keeps your weaving level.*

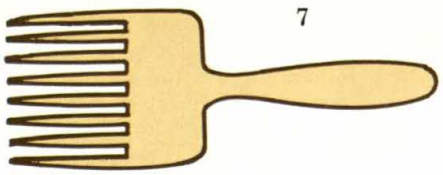


6. *To stop your tapestry going in you can lace it to the side of the frame.*

Joining threads. When the weft yarn which is wound around the bobbin comes to an end, the last 5cm (2″) are left hanging down either at the front or the back of the tapestry. The beginning of the next length of weft is started next to the end of the last length, again leaving 5cm (2″) hanging on the same side.

Traditionally, tapestries were woven back to front with all the ends hanging down the side facing the weaver. However, these ends tend to obscure what is happening and you may find it easier to work with the front facing you. There is no need to overlap the beginnings and ends of the weft, as tapestry weave is very firm and the ends will not pull out.

Beating. After weaving the 2cm ($\frac{3}{4}$″) of black, the weft must be beaten down more closely. Use a heavy forked tapestry beater to do this (fig.7).



7. *A heavy, forked tapestry beater can be used to beat down the weft into a more compact structure.*

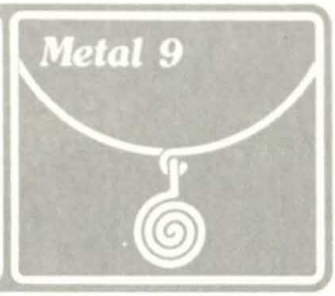
Tapestry weave

The aim of the conventional tapestry weave is to cover the warp fully and compactly with the weft. Unlike most other weaves where the warp and weft bend around each other, tapestry keeps the vertical warp threads straight, with the weft bending around them to form the fabric (fig.8). The warp is completely covered and the weft alone creates the design.

Paul Williams

8. *In tapestry the weft yarn does the work while the warp remains straight.*

Bracelets from forks and spoons



Household cutlery is generally considered decorative when it is laid out on a table set for a dinner party. But even then its decorative qualities are taken for granted, or not seen at all. But you can make eye-catching jewelry from forks, spoons, and cake lifters. Bracelets and rings are extremely simple to make.

To get started does not mean you have to deplete the kitchen drawer of all its forks and spoons. You might have some odd cutlery you can practise on, and attractive oddments can often be bought cheaply from bric-a-brac shops. If you buy forks make sure that they have handles long enough to bend round the average wrist. Small spoons, such as those used for mustard, can be made into rings.

You can use beads and stones from old costume jewelry to embellish the completed jewelry or you can buy suitable beads from craft stores. The stones can be glued to the jewelry with an epoxy resin adhesive or you can bend the prongs of a fork to hold a stone. However, the jewelry is attractive enough without any added decoration.

The technique for making this kind of jewelry is simple and requires only a little experience before you will be able to produce pieces that appear to be marvellously intricate and skilful.

To make a bracelet

You will need:

Small anvil or else a flat metal surface and a piece of metal pipe.

Mallet—covered with a hide head.

Round-nosed pliers—medium sized will give better results than small ones as the cutlery can be quite hard to bend, depending on the metal it is made from.

Vice.

Fork.

Metal polish.

☐ Lay the fork along the flat of the anvil.

☐ Use the mallet to flatten the prongs and neck, but leave the curve at the extreme end of the handle. Make square, light blows to the fork to prevent damaging the surface (fig.1).

☐ Hold the fork with the prongs facing you. Using the round-nosed pliers grip one of the outside prongs at the base and bend it to an angle of about 45°. Repeat with the other outside prong (fig.2).

Do not try to force the metal and, above all, do not attempt to bend back to where you started from. Keep an eye on the positioning of the curves and try to get them even.

☐ Now start curling the prong from the tip. Make a slight curl to the tip and then keep moving the pliers down along the prong until the curl is complete. Repeat for the other prong.

☐ The two inside prongs can now be curled. They can either curl towards each other or away from one another. Start the curl at the tip and work down along the prong as before (fig.3).

If you bend the prongs towards one another, start by bending them away from each other about half-way down their length. Then work from the tip.

☐ Check the design and make any adjustment necessary to balance it.

☐ Using the mallet start tapping the handle of the fork around the beak of the anvil (or the metal pipe), following the curve.

☐ Use square, light blows and move the fork along the beak so that you gradually cover the whole length and then the prongs (fig.4). You can repeat this to get a tighter curve to make a smaller bracelet.

☐ Fit the bracelet on an arm and make any adjustment necessary.

☐ Polish with metal polish.

If your results are good, and the plating has come off, then you can have them silver-plated by a jeweller.

Alternative designs are easy as you can bend the prongs in various directions, but remember that the simplicity of design combined with the chunky quality is appealing in itself.

Stones and beads are glued in position, if required, when the article is complete.

1. *The prongs of a fork are flattened on an anvil with the mallet.*

2. *The outside prongs are curled at the base before the ends are curled.*

3. *The prongs are curled using the round-nosed pliers.*

4. *The fork is shaped into a curve on the anvil to form a bracelet.*

Far right: pieces of jewelry made from cutlery such as forks, cake lifters and sugar tongs look glamorous when highly polished. If the plating from the cutlery has worn away, the completed jewelry can be re-plated by a jeweller or silversmith. Designer Paolo Lurati.

Stuart Dalby

Steve Bicknell

Theo Bergström

Introduction to batik

The word batik (pronounced bateek) means 'wax writing' and this is basically what batik is. It is a way of decorating cloth by covering part of it with a coat of wax and then dyeing the cloth. The waxed area keeps its original colour and when the wax is removed the contrast between the dyed and undyed areas makes the pattern.

This chapter deals with the basic methods of the batik process, and the subject is more fully developed in subsequent chapters.

The exact origins of batik are unknown, but they are almost certainly in the Orient where the technique was used, long before printing, to enhance the appearance of fine garments. Batik became most deeply rooted in Indonesia, particularly the island of Java, where it was a highly developed art by the 13th century.

Batik was considered a fitting occupation for aristocratic ladies whose delicately painted designs, based on bird and flower motifs, were a sign of cultivation and refinement, just as fine needlework was for European ladies of a similar position.

Java is still famous for batik and the traditional patterns, developed over centuries, are still part of Javanese dress, although very few are made by the traditional method of wax painting. This, instead, has been rediscovered and put to use by craftsmen all over the world who find the freedom of working with liquid wax, and the control of colour possible through dyeing, makes batik an exciting and uniquely expressive medium to work in. Increasingly, the all-over patterns of Oriental batiks are being replaced by imaginative pictures and designs of all sorts, which are used to make wall hangings and soft sculpture as well as decorations for clothing and household items.

Part of the attraction of batik is its simplicity and the fact that you don't have to be artistic in the conventional sense to produce beautiful results. Some of the best effects in batik are in fact the work of chance. This is particularly true of the way in which the wax cracks to let small quantities of dye through, adding an unexpected and interesting effect to any design. This hairline detail, or 'crackling', is a special characteristic of most batik work.

Because batik wax is applied hot it is necessary to work fairly rapidly and this can produce a freedom (or loss of self-consciousness) that makes many people who think they cannot draw find, to their amazement, that they can. Of course, designs can be worked out beforehand and for many things, such as borders and trimmings, this is necessary; but designs drawn spontaneously in wax, or according to the briefest sketch, can bring surprising rewards.

Combined with the pleasure of drawing freehand is the fascination of working creatively with dyes—blending and mixing different colours—to get as vivid or as subtle a shade as you want.

Fabrics

Natural or vegetable fibre fabrics, such as cotton, linen and silk, are the ones to use for batik.

Viscose rayon can also be used, but avoid all synthetic fibres, no matter how closely they simulate natural fibres. Their true nature is revealed in the dyebath, by which time it is too late. They will not dye properly with cold dyes, which must necessarily be used for batik; otherwise the wax would melt in the dyebath.

To test fibres of which you are uncertain, try this quick test. Watch carefully as you hold a single fibre over a lighted match. The synthetic thread melts quickly into a hard residue. Organic fibres burn more slowly, and a soft ash is formed.

Silk is one of the best fabrics for batik —the finer woven the better—and a finer waxed line can be drawn on silk than on any other fabric. To start with, however, silk is far from necessary, and the expense may inhibit your inventiveness since you will be less willing to 'chance' a design.

Cotton is excellent, and some prefer it to silk on the grounds that the sheen of silk obscures the pattern.

In general, with coarser spun fabrics, more wax is absorbed and a fine sweeping line is harder to obtain, as the wax sinks rapidly into the cloth as it is applied. So, although you can batik canvas, calico and flannelette, these are only suitable for large, clear designs.

For intricate work and, in particular, pictures or wall hangings, fine linen or fine cotton is recommended. Especially delicate designs can be produced on batiste or cotton lawn—any thin cotton in fact which is not so transparent that your picture will look like an apparition.

Dye

Batik dye must be a cold dye since hot water would cause the hardened wax to melt in the dyebath. Ordinary cold water dyes are best for beginners and all contain instructions for their use; but after some experience you may prefer to use special, fast-acting cold dyes or vat dyes, which involve the use of additional chemicals but which 'take' a lot more quickly and, in the case of vat dyes, give exceptionally colourfast results.

Once you are used to working with wax you can begin to experiment more with mixing dyes, buying large amounts (less expensive) of the basic colours and making any others you need.

Wax

The ideal mixture for batik work is 30% beeswax to 70% paraffin wax, and to try it for the first time you can easily melt down candles. If, however, you decide to do more batik, it makes sense to get the wax from a craft supply house in bulk.

Beeswax adheres well to fabric, whereas paraffin wax is brittle, cracking easily. So how you mix the two determines how much crackling you get.

Crackling produces the fine lines that characterize most batik work. With pure paraffin wax there is the danger of it peeling off in the dyebath. A mixture of beeswax and paraffin wax therefore assures adherence, plus decorative crackling effects.

Beginner's equipment

The equipment you need to begin batik is fairly simple, and most of it can be found around the house.

Some old white sheets. Old, torn white cotton sheets have the advantage of being already free from chemical finishes (which would otherwise prevent the dye from penetrating).

Note: all new fabrics must be boiled to remove the finishing.

Candles (at least one containing beeswax).

Double saucepan, for melting wax.

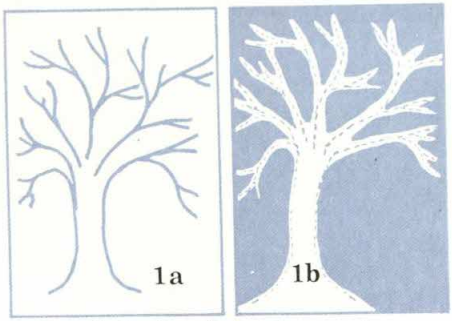
Batik is a way of decorating cloth by painting with wax and then dyeing the cloth. The waxed areas keep the original colour. Examples shown were made in Sri Lanka (Ceylon).

Steve Bicknell

Good quality artist's paintbrush.
Cold water dye and fixative.
Charcoal, or pencil, for making preliminary sketch.
Old picture frame. (Batik is normally worked on a special frame on which the cloth is tacked to keep it taut, but for beginners an old picture frame will serve just as well.)
You will also need to use the cooker, or (more convenient) a boiling ring or chafing dish (such as a fondue dish with candles beneath) to melt wax, and you will need access to a sink or a bowl for dyeing.

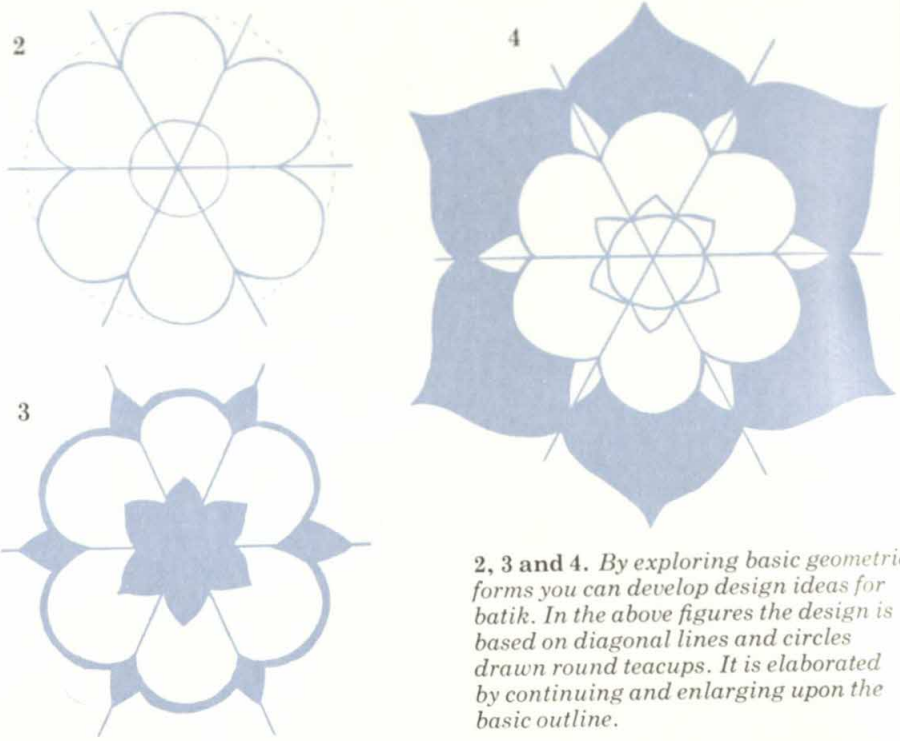
How to batik

Making the basic sketch. With a dark pencil or charcoal, begin to sketch your design on the cloth. It does not have to be elaborate—just a few guidelines.
You can draw the first subject that comes to mind, or try the simple tree sketch in fig.1, which will give you some idea of the freedom of batik yet provide a basic guideline at the same time. The tree motif illustrates another useful principle in batik—that it is often a good idea to work the surrounding spaces with wax rather than the object which is being depicted. So, in the case of the tree, it is the sky or



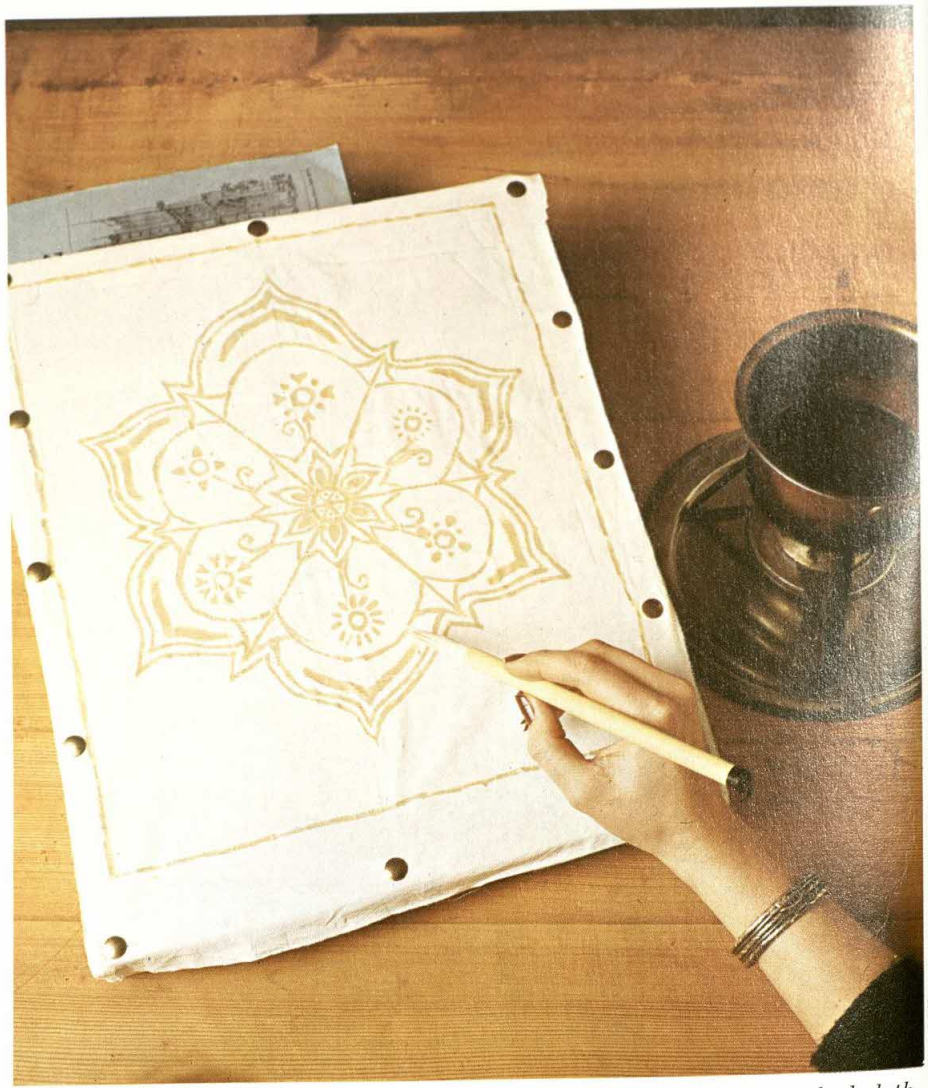
1. *Simple freehand sketches are the basis of many batik designs and often the surrounding areas are waxed rather than the image itself. In the tree sketch (b), blue indicates waxed area.*

the space round the tree that matters. This can be a whole new way of looking at things.
Fig.2 shows a simple geometric design which can be made using round household objects, like cups, to make the curves between the straight charcoal lines. You can add other shapes and innovations to this basic design as the illustrations show (figs.3,4).
Remember that you must always decide in your design whether you want the present colour of the cloth to be the background or the design itself, since this will determine where you apply the wax.
When you have made your sketch, stretch the cloth across the frame and fasten it with drawing pins. You can



Angela Bragg

2, 3 and 4. *By exploring basic geometric forms you can develop design ideas for batik. In the above figures the design is based on diagonal lines and circles drawn round teacups. It is elaborated by continuing and enlarging upon the basic outline.*



Dick Miller

A motif similar to the one explored above is painted in wax on to stretched cloth.

prop the frame up with a book to make it easier to work on.

To prepare wax, use either the cooker or a boiling ring. The latter is more useful since you can keep it beside you while you work. Otherwise, you will need to work beside the cooker.

Safety hints: hot wax is very inflammable so it is wise not to heat it directly. Insulate the wax pan by using a double boiler, or by putting it in a large pan with about 2.5cm (1") water in the bottom. The water will need replacing as you work, so keep a jug nearby. Try to prevent the wax from reaching a temperature where it begins to smoke. As soon as the wax is bubbling gently, turn heat to low.

When the wax is hot enough to use it will penetrate a test piece of cloth, sealing it on both sides so that light readily shines through and the fabric has a wet look. If the wax looks whitish and opaque, it has probably not penetrated.

Place the wax beside you—to your right if you are right-handed, and to your left if left-handed—to avoid reaching over your work and possibly dripping wax on it unnecessarily.

Painting with wax. You will need to work quickly as the wax cools and dries rapidly on the brush. Stir the wax frequently with your brush, and let excess wax run off before removing the brush from the pan.

Fill in the design with wax, following your charcoal lines. Let the width of your brush determine the thickness of the line.

Do not go over the same place twice—this has no effect—but paint on boldly, continually renewing the flow of wax on your brush.

You can also make dots and lines by dripping wax directly on to the cloth from lighted candles, and this is often a good way to get your first sense of the wax technique since virtually no preparation is needed.

If the shape you have made suggests any further shapes to you, add them. (Figs.2-4 can be used, or merely act as suggestions to your own subconscious.)

After dyeing the waxed cloth opposite blue, the design is enlarged upon.

Dyeing. When your sketch is finished in wax you are ready to dye. Unpin the cloth, crumple it a little to encourage the wax to vein and crack, and immerse the waxed cloth in the dyebath for the period of time recommended by the manufacturer.

When you remove the cloth from the dyebath, hang it up to drip, preferably over a bowl or sink. Do not rinse, wring or dry by artificial means—impatience at this point is only rewarded by pale and uneven dyeing. Leave the cloth to drip dry thoroughly. Remember that all dyes look several shades darker when wet, so don't worry if the fabric looks excessively dark when wet.

Multi-coloured dyeing. If you want to enlarge on the design by adding more colour, do not remove the wax. Instead, when dry, pin it to the frame again and wax any new areas. Bear in mind that these areas will retain the colour of the first dyebath, and that in the unwaxed areas the colour of the second dye will blend with that of the first (for additional information about blending dyes see Dyeing 1, page 150). If you are dyeing the cloth the same colour the second time, remember that you can only dye to a darker shade—light blue to navy, for example.

To remove the wax. Iron it off between sheets of newspaper or boil it off in water. Wax can also be scraped off but this is not recommended for beginners since it is too easy to cut the cloth and ruin the whole thing.

After scraping, boiling or ironing, a small residue of wax will still remain on the cloth, giving it a wet look, which you may find desirable for wall hangings and other decorative devices, but for clothes and soft furnishings all traces of wax must be removed. This is done by dry cleaning or soaking cloth in strong detergent.

Cleaning up. It is worth being rigidly neat about putting away dyestuffs and cleaning up after you have finished work. Use a sieve to empty the dyebath, since wax would accumulate in the drain and cause a blockage.

Dick Miller

The finished design is made by dyeing the cloth red and removing the wax coating.

Arranging dried flowers

Dried flower arrangements can be approached in much the same way as fresh flower arrangements—but there are some advantages. Since dried flowers do not require water, it is not necessary for all the stems to stand in a vase—other supports can be used. Also, they are more obedient to the arranger and will not twist and droop in an arrangement. Best of all, dried arrangements are everlasting and so

Keith Morris

Dried flowers can be arranged like fresh ones but they will have a look that is distinctly their own. The arrangement below from Constance Spry is made up of box (Buxus sempervirens), beech (fagus sylvatica), sweet chestnut (Castanea sativa), grevillea (proteaceae), cyperus massia, zara flowers. The large pale-petalled flowers are called Mathari lilies and are made by tying dried leaves to spiky centres like teasels.

Liz Whiting

Many dried flowers retain much of their original colour—some naturally, others by drying in silica gel.

To make the arrangement on the left put in the tall outline material first.

Large flowers are put in the centre.

make splendid decorations all year round, especially in the winter when fresh flowers are hard to get and very expensive.

Preparing the material

Before you begin an arrangement, some of the dried plant material may require extra care. (For instructions on drying plants and flowers see Flowers and plants chapter 5, page 584.)

Dried flowers and grasses can also be bought from time to time in florist shops. Florist's stubb wires should be used for making false stems when necessary. The thickness of the wire used depends on the material and its purpose. Gauges 0.90mm, 0.71mm and 0.56mm are the most commonly used. Delicate leaves can be reinforced with silver reel wire, and wire stems concealed with florist's tape (gutta percha). These are available from floral supply houses or can sometimes be purchased from your local florist shop.

A hollow corn stalk can be slipped over the wire to conceal it too.

For detailed information on wiring different flowers, see Flowers and plants chapter 3, page 524.

It will help to preserve delicate seedheads if you spray them with hair lacquer before arranging them, and many berries can be preserved by brushing them with a mixture of ½ clear shellac and ½ alcohol. Leave them in an airy place to dry.

Supports in the container

Wire mesh. The most commonly used support for dried and fresh flowers is crumpled wire mesh with 5cm (2″) gaps. This does not always produce a close enough texture, however, to hold the fine wire stems on some dried material.

Florist's foam such as 'Oasis' (used dry), and blocks of dry foam which are made especially for dried arrangements, are alternatives. As the foam is light and will overbalance easily it must be anchored to the container. This can be done by impaling it on a pin holder, by covering it with wire mesh and securing the mesh to the container with a wire, or by wrapping a weight into the base of the foam.

Plasticine can also be used. A lump of this should be pressed firmly into the base of a dry, clean container, and the stems pushed into it. Plaster of Paris may be used in the same way provided you can make up your arrangement before it sets hard. In both methods it is easier to see what you are doing if you use a shallow container.

Glaring white plaster can be concealed by painting it or rubbing it with brown shoe polish when it is quite dry.

Containers

There are no hard and fast rules about what containers to use for dried arrangements. Glass containers would obviously be unsuitable if you have lots of foam and underpinnings to conceal, but gently curving, golden stems of corn would add to the grace of an arrangement.

Because the containers do not need to be watertight, rush or wicker baskets can be used. A flat wooden slab makes an excellent base, using well-disguised plasticine as a support. Smaller arrangements can be made to fit snugly into a scallop shell or a candlestick. Candles themselves look pretty surrounded by dried flowers, but be very careful to keep the dried material well away from the flame as it is highly inflammable.

Arranging the material

It is most likely that if you care enough about flowers to make the effort to select and preserve them, you will also have a feeling for making them look attractive in an arrangement.

Assuming you have chosen a container and have the necessary supports firmly in place, then the next step is to arrange your material.

A good rule is to have different quantities of the various flowers or leaves. Even quantities tend to make monotonous displays.

Your arrangements can be as delicate or as elaborate as you wish—a few wispy flowers in muted tones on a coffee table make an effective 'shape', or a straightforward, formal arrangement, made very much as though you were working with fresh flowers and bearing in mind each flower's contribution to the whole arrangement. Alternatively you can make a fabulous, massed concoction. By adding new sprigs, even green ones, and letting them dry in the arrangement, it becomes an ever-growing one. This kind of arrangement is entirely dependent on your materials, how much space there is in the room and the size of your container. For the more traditional arrangement, however, you need to follow a basic building procedure.

Formal arrangements need a basic outline, focal interest and filling material.

The first step is to place the tall outline material. Place the first three pieces to fix the outline points—make the three points of a triangle, for example, with the stems coming from a central point. To give depth to the arrangement, avoid putting the outline points on the same plane.

The items which make up the focal points of the arrangement should be placed near the middle and fairly low in the overall pattern. Don't make this part so strong that it kills the rest of the material, add just enough material to make the arrangement come to life. Hydrangea or clusters of vivid berries would be a good choice for this position.

Filler material—grasses for example—should be used to blend the focal interest points with the outline material. The aim is not to fill in all the remaining gaps but to make the whole arrangement harmonize. This is a dangerous stage in the arrangement, when it is very tempting to go on adding more and more material. Stop when you see that there is enough material to complete a graceful design.

Re-working. Dried flowers can be reworked indefinitely in arrangements of different sizes, combinations and shapes, provided they are treated with special care. Some are, of course, more brittle than others, and all are liable to break. It is not unusual, however, to keep on using the same flowers in different arrangements for years, and they can be stored away in the attic or cupboard when not in use, eg during the summer when the scents and hues of freshly cut flowers make them an irresistible change.

The simplest arrangement can be beautiful in itself yet blend perfectly with the surroundings. Arranged by David Hicks.

Steve Bicknell

Right: this magnificent, massed arrangement by David Hicks is ever-growing as well as everlasting. It is built up by continually adding fresh sprigs that are allowed to dry in the arrangement. The plants used include bullrushes (Scirpus acustxis), pampas grass (Cortaderia selloana), box (Buxus sempervirens), hemlock (Conium maculatum), oak (Quercus robur).

Steve Bicknell

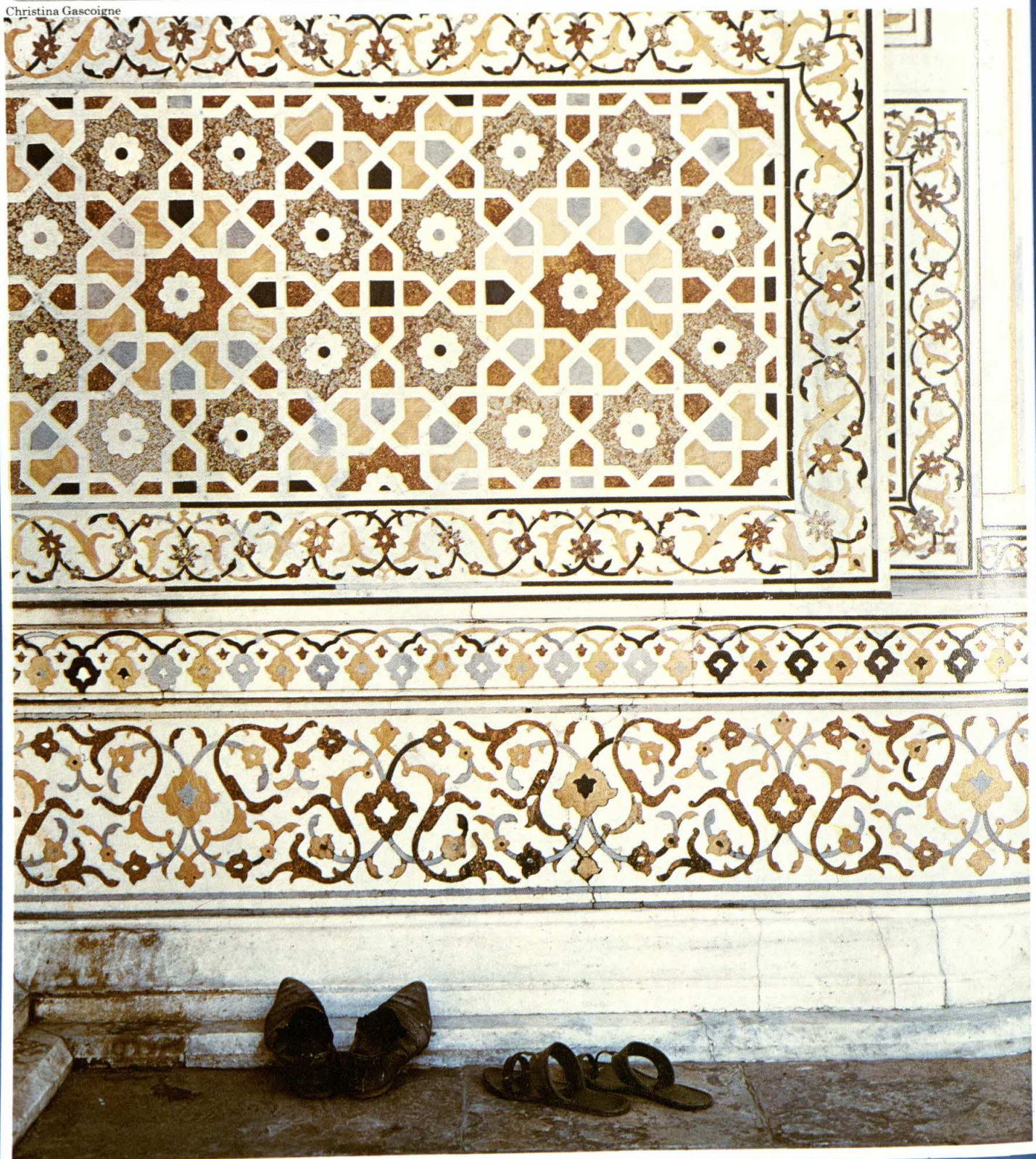
How to create an Islamic design

Design know-how 22

Islamic design is grounded on the repetition of symmetrical pattern. The basic unit (or module) can be repeated again and again to make a pattern which is both geometrical and rhythmical. In this chapter a simple pattern

Inlaid white marble at the tomb of Itimad-ud-daulah at Agra in India. The overall design is based on two square grids at angles to each other.

Christina Gascoigne



is built up by following the lines of a grid. Once the pattern is completed it can be used for any number of design projects.

You will need:
A piece of paper, protractor, ruler, pencil, pen or crayon.

How to make the grid. A triangular grid must first be constructed. This is the framework for many patterns and is fundamental to many Islamic designs.

☐ Draw a rectangle 7.5cm x 10cm (3″x4″).

☐ Mark off points at 25mm (¼″) intervals along the horizontal base line.

☐ Construct a 60° angle from each point with a protractor. Draw a line along the angle. Draw another 60° angle pointing in the other direction (fig.1).

☐ Extend the lines to the top of the rectangle.

☐ You will need to extend the base line 4cm (1½″) in both directions to complete the grid. Mark off points every 25mm (¼″) along the extended base line and construct 60° lines as before, drawing them in where they cross the rectangle (figs.2 and 3).

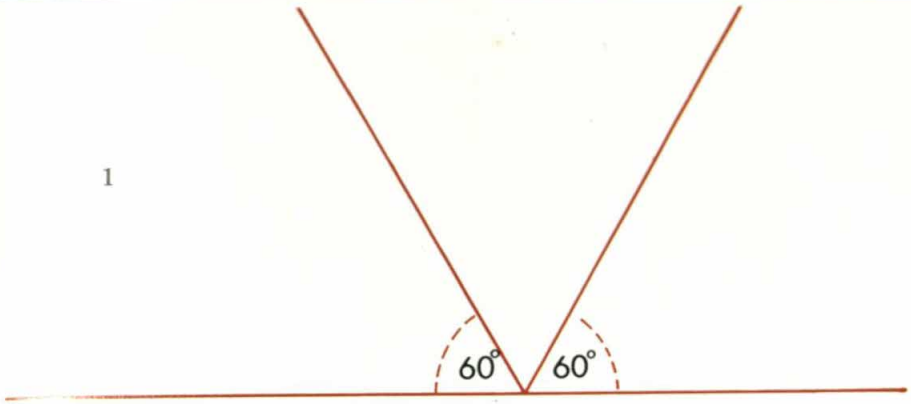
☐ Where the lines cross each other in the rectangle draw horizontal lines parallel to the base (fig.4).

The grid is now complete.

How to make the pattern. Be sure to always follow the lines of the grid.

1. Take a pen or crayon and, at the first left-hand point on the top line, connect two units (sides of triangle), left and down, then two units right and

1



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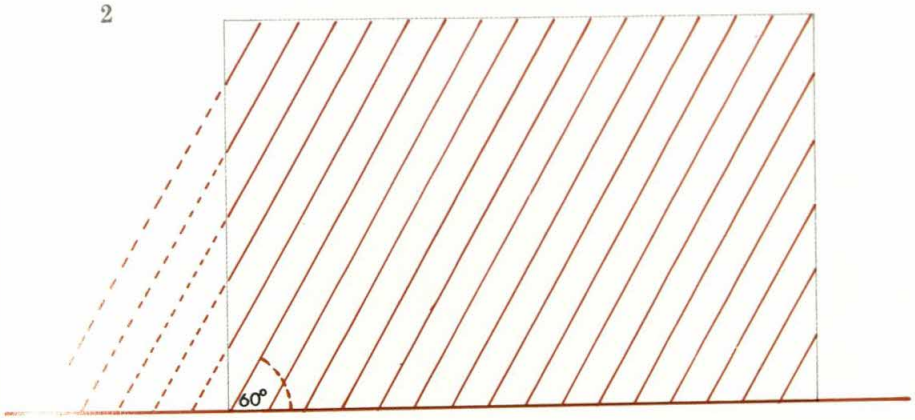

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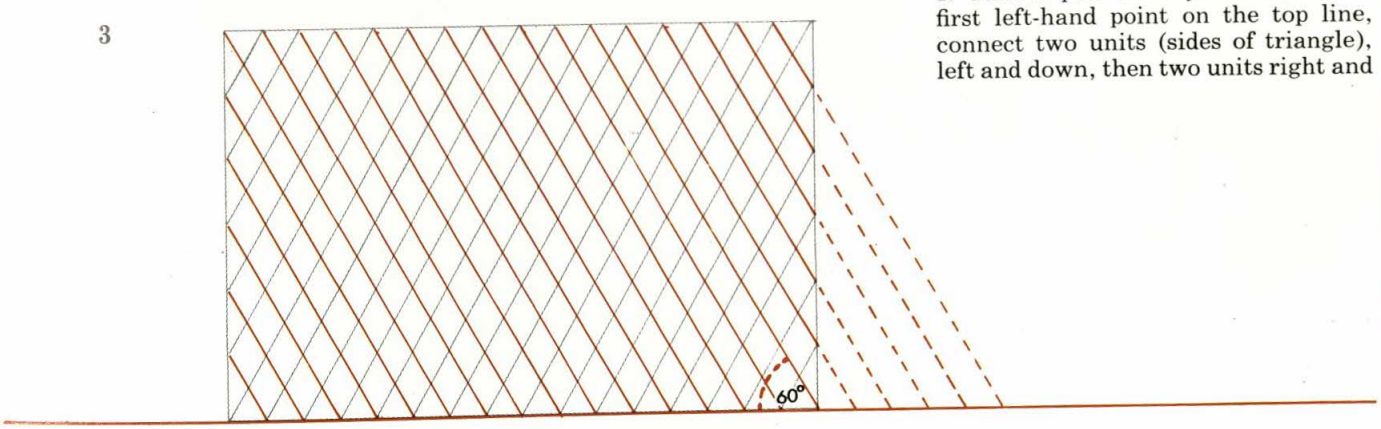

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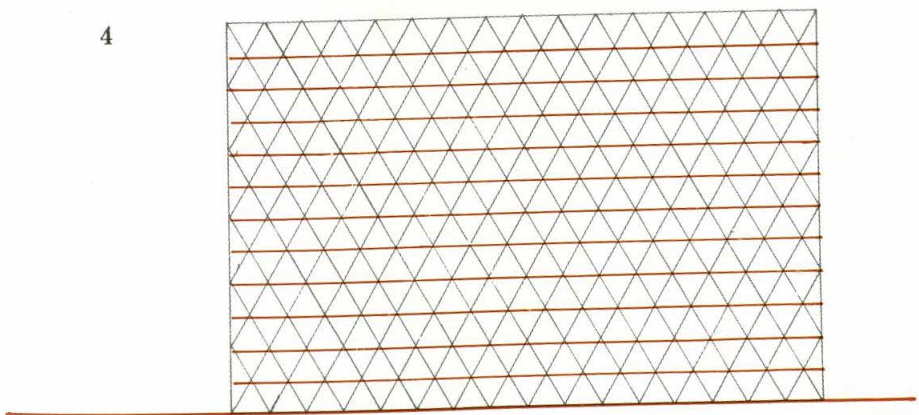
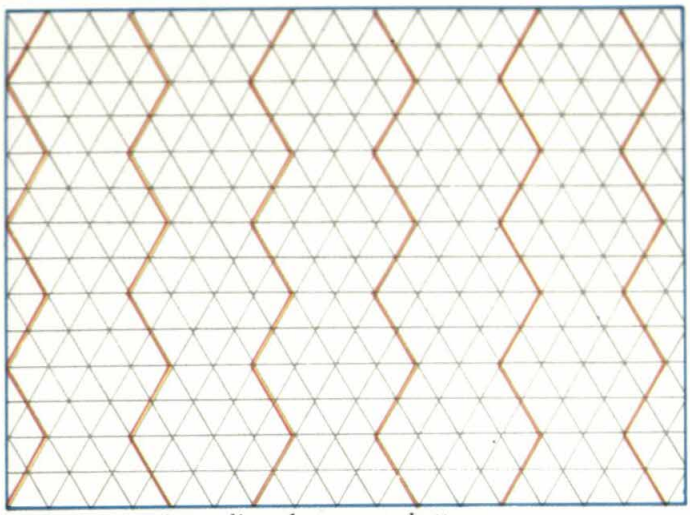


1. *At every 25mm (¼″) point along the base line of the rectangle construct a 60° angle left and another 60° right. Draw in the angles.*

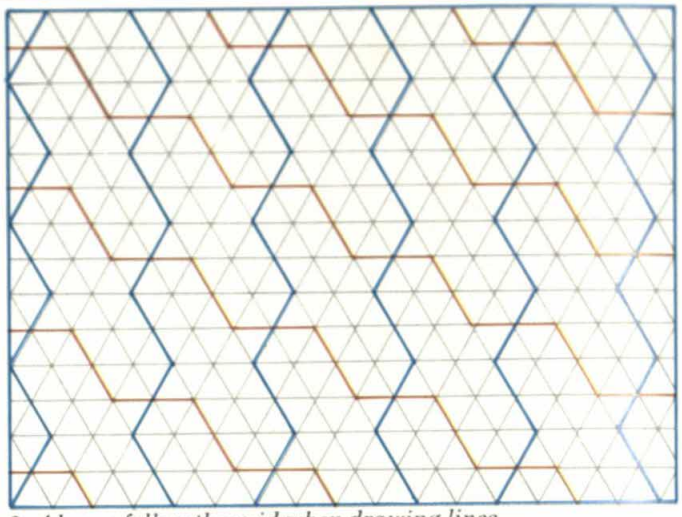
2,3. *The top right and left corners of the rectangle are not yet complete. Extend the base line both ways, mark off points at 25mm (¼″) intervals and draw in 60° angles from the points across the top corners of the rectangle.*

4. *Complete the triangular grid by drawing horizontal lines across the points where the 60° angle lines meet.*

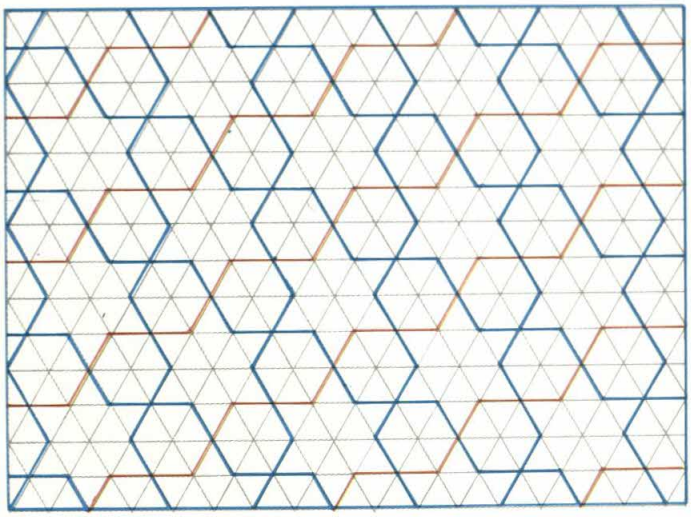
Trevor Lawrence



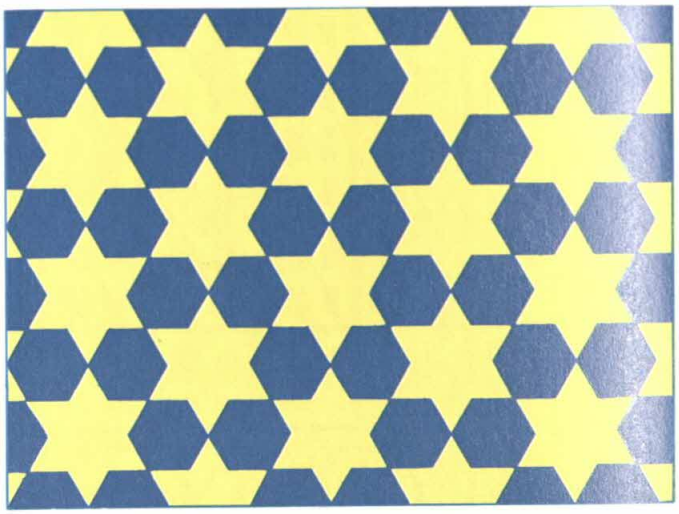
5. *Construct zigzag lines from top to bottom.*



6. *Always follow the grid when drawing lines.*



7. *The finished pattern of stars and hexagons.*



8. *Blue and yellow are often used in Islamic design.*

down, and so on in a zigzag pattern (fig.5).

2. At two more points along the top line repeat the pattern but reverse the order, ie two units to the right and down, then two to the left and down, and so on.

3. Repeat the instructions for 1 and 2 and continue across the page.

4. At the first horizontal from the top left-hand corner draw along the horizontal line for 1½ units, then two units to the right and down, two horizontal, two to the right and down, and so on (fig.6).

5. At four units down from the first horizontal, repeat the pattern as in 4. Continue the pattern to the bottom of the rectangle. At eight and twelve units from the first horizontal repeat the pattern as in 4.

6. At five points across from the top left-hand corner draw a line one unit down and right, then two units horizontal and right, two units down and right, until the pattern reaches the edge of the rectangle.

7. At six more units along the top repeat the pattern as in 6.

8. At five points across from the top left-hand corner draw a line one unit down and left, two horizontal and left, two down and left, 1½ horizontal (fig.7).

9. At six points along the top line repeat the pattern as in 8 until the edge of the rectangle is reached.

10. At one point down from the top right-hand corner draw a line 2 units across, two left and down, two across and left, and so on.

11. At four, eight and twelve points down from where 10 starts, repeat the pattern as in 10.

You now have an interlocking pattern of hexagons and stars (fig.7). There is no need to stick to this pattern. By following the lines of the grid in a systematic way you can create a number of repeated patterns.

This pattern is a simplified version of the design on page 614. Trace the pattern or work on large-scale squared graph paper, adding another square grid diagonally to the first. Fill in the design starting with one of the octagons.

Trevor Lawrence

Creative ideas 22

French knitting

French knitting is child's play really, but the simple knitted rope it produces can be used in a variety of sophisticated ways.

You will need:

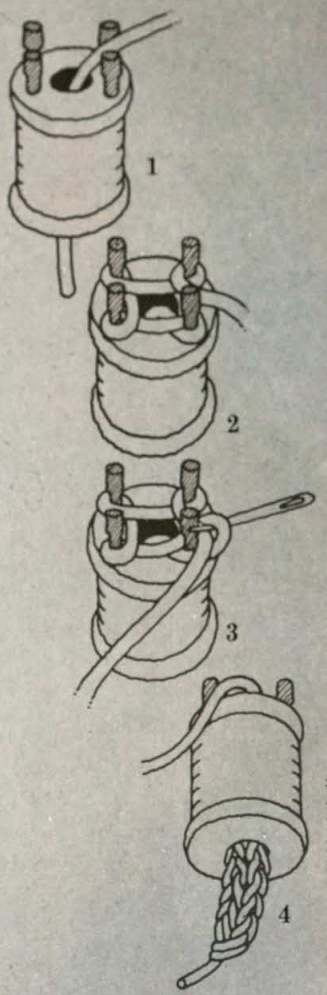
Empty wooden cotton reel.
4 small nails.
Darning needle.
Knitting wool—the cord shown here is made from random-dyed wool.

Hammer the nails equidistantly around the centre hole of the cotton reel. Thread wool down through hole (fig.1). To cast on, wind wool around each nail as shown (fig.2).

Now bring wool around outer edge of each nail in turn and pull the bottom loop over the top loop with the darning needle (fig.3). Continue working round and round; the cord will come out of the bottom of the reel as you work (fig.4). Tie on extra wool as you need it.

Finish by casting off one loop over the other and knotting wool strand through last loop.

Follow the steps below to begin French knitting.



Robin Arkell

Trim a baby's stretch suit by sewing a colour-coordinated length of French knitting around neck and cuff seams.

Steve Bicknell

Creating simple cut-outs

Cut-out coloured paper shapes can be used to decorate any suitable flat surface, where they have much the same effect as smoothly applied bright paints. This method of decoration is sometimes referred to as *découpage* although, strictly speaking, *découpage* includes varnishing the cut-outs until they appear to be inlaid in the surface they decorate (this technique is described in a later chapter).

It is quick and easy to give a crisp, professional look to small items, such as boxes, calendars and greetings cards, by decorating with small cut-out paper shapes, whilst cut-outs from larger sheets of plain coloured or patterned shelf-lining paper, wrapping paper or wallpapers are ideal for paper murals.

The designs used for paper cut-out decoration are usually quite simple. What makes them so effective is the choice of brilliant, contrasting colours.

These delightful boxes clearly show how effective simple shapes can be when combined with clever use of colour.

PAF International

Suitable papers

Ready-gummed paper is particularly useful for decorating small areas. Colours, though limited, are clear and the surface is shiny; you can buy it in pre-cut geometric shapes or sheets.

Foil- or vinyl-coated papers also look very attractive, but any good quality coloured paper of reasonable thickness is suitable.

Repeat patterns

It may save time in the long run, if you are making a wall frieze for an entire room, for example, to cut a stencil for a repeating pattern (see Paper chapter 8, page 226).

If you want to repeat the same pattern a few times only, as for the floral garland decorating one of the boxes in the picture, for example, simply place two or more sheets of paper on top of each other (they can be the same or different colours), and staple the sheets together at the edges.

Then lightly draw your design on the top sheet in soft pencil, and cut them all out together with a sharp knife or scalpel.

Cutting tools

Sharp pointed scissors are suitable for cutting single sheets of most types of paper; but a scalpel is easier to use where intricate cutting lines are involved, and will give a cleaner finish when thick paper or several sheets are used.

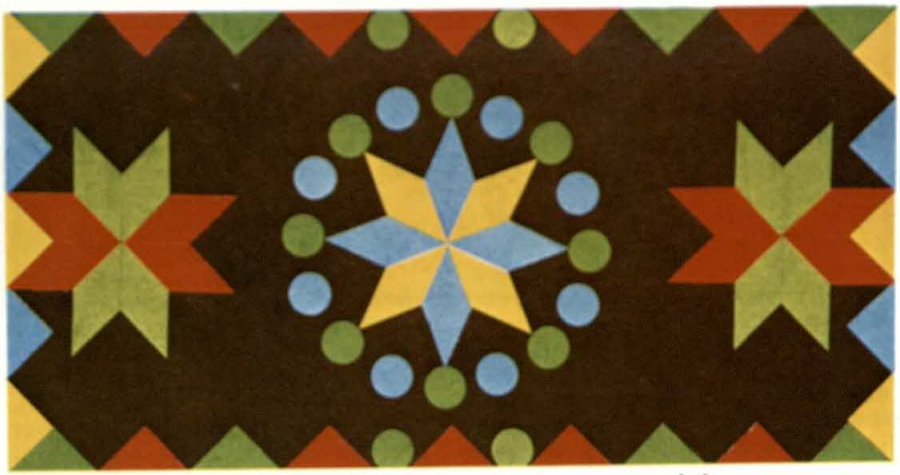
Remember that a knife cuts from above so its pressure will push down any slightly fraying edges that may occur. It is important, therefore, to cut directly into the coloured surface of your paper. The 'wrong' side (pre-gummed or plain backing surface) should be face downwards, furthest away from the knife's cutting edge.

Suitable adhesives

If you have used thin paper for your cut-outs, choose a rubber solution glue, such as Cow or Gloy Studio Gum, to stick them to the box, wall or whatever is to be decorated. For thicker paper cut-outs use a PVA adhesive to glue on to a wooden surface, and wallpaper paste for murals and wall friezes.

Protecting cut-out designs

Cut-outs made from good quality paper with a glossy finish will, if firmly glued in place, look very attractive. But, for longer life, they should be sealed with varnish or covered with transparent plastic film (this technique is described in a later chapter).



Theo Bergström

Above: imaginative pattern created with pre-cut, ready-gummed shapes.

Victoria Drew

Right: trace patterns for simple motifs to use on cards and boxes.

Introduction to kilns

Clay 14

Natural clay must be baked before it will become a hard and durable material.

The bonfire method of firing is suitable for making small, sturdy pots, but for any kind of delicate pot that is to undergo wear and tear a kiln (or pottery oven) is essential.

The intense heat that can only be generated by a kiln is also necessary for melting a pottery glaze. Glaze, as well as being the most usual decoration feature on all kinds of pots, makes the clay waterproof and also gives it a smooth, hard surface that is easy to clean. There should be no cracks in the pot or the glaze, and the glaze must melt completely during the firing which requires an extremely high temperature.

For most firing and all types of glazing, therefore, you will need to own or have access to an efficient kiln.

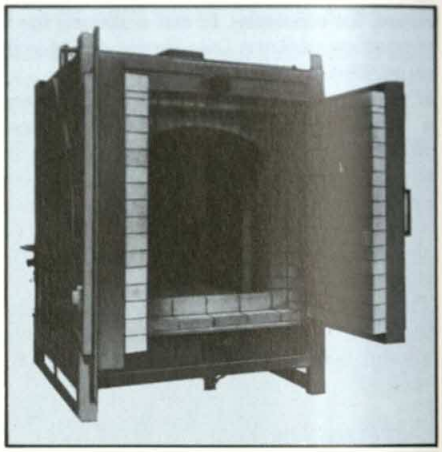
Basic structure of a kiln

A kiln is basically a chamber which can be heated to a very high temperature. The chamber is usually constructed from special heat-absorbing bricks like those used in electric storage heaters. The bricks insulate the chamber by absorbing heat so it is important that the chamber is well sealed, or the heat will escape and the kiln will not function properly.

Kiln temperatures

The kiln must be designed and built to produce the right amount of heat for the temperature required, evenly and efficiently.

The temperature your kiln should be capable of reaching depends on which variety of clay you intend to use. Earthenware clays require a temperature of 1100°C (2012°F) and stoneware clays a temperature of 1250°C (2282°F). Once the kiln has reached the required temperature, the heat should be evenly distributed so that the pots are fired properly and your work is not wasted. Even more important, the kiln must do its job safely—if the kiln is not functioning properly it can be dangerous.



Kilns fired by gas are relatively cheap to run, but they are bulky and require a special chimney to carry off the gases.

Some electric kiln sizes and specifications

Description	External size, mm (″) width x height x depth	Chamber size mm (″) width x height x depth	Chamber capacity m^3 (ft^3)	Power rating KW	Max operating temp °C
"Mini" kiln for jewelry or single items	356 x 356 x 408 (14 x 14 x 16)	152 x 152 x 152 (6 x 6 x 6)	0.003 (0.12)	3.0*	1300
One of the smallest and cheapest "proper" kilns	610 x 762 x 686 (24 x 30 x 27)	254 x 330 x 254 (10 x 13 x 10)	0.021 (0.75)	3.25*	1300
Medium-size medium price kilns, suitable for most craft pottery purposes	661 x 762 x 812 (26 x 30 x 32)	305 x 330 x 381 (12 x 13 x 15)	0.037 (1.33)	4.75†	1300
	762 x 1422 x 788 (30 x 56 x 31)	381 x 406 x 381 (15 x 16 x 15)	0.057 (2.0)	6.0†	1300
	762 x 1575 x 788 (30 x 62 x 31)	381 x 559 x 381 (15 x 22 x 15)	0.083 (2.87)	7.75†	1300
Expensive large capacity kilns suitable for group use, or by schools, colleges and professional potters	838 x 1575 x 965 (33 x 62 x 38)	460 x 482 x 533 (18 x 19 x 21)	0.116 (4.1)	10.5†	1300
	990 x 1575 x 1219 (39 x 62 x 48)	610 x 610 x 610 (24 x 24 x 24)	0.227 (8.0)	17†	1300
	990 x 1575 x 1371 (39 x 62 x 54)	610 x 762 x 762 (24 x 30 x 30)	0.35 (12.5)	22†	1300

*Can be operated from standard 240V 13/15A domestic supply without extra wiring. If the kiln is to be wired for three phase supply, a contractor and energy regulator must be fitted. †Require special wiring.

Types of fuel

The very high temperatures inside the kiln chamber can be generated by one of a variety of fuels. Kilns in use in potteries, schools and on sale to the public may use wood, coal, coke, gas, oil or electricity.

Electricity. The easiest to use and most efficient type of kiln is electrically fired. An electric kiln has a chamber made of special refractory bricks with ridges cut into them. The ridges hold specially thick resistance wires through which an electric current is passed. The electric kiln is efficient because the heat which is radiated into it at a steady rate is retained by the insulating bricks. The fuel does not need to be boosted during the firing, and only the minimum of attention is required during the firing process.

Electricity produces no waste gases, and the heat loss is small so that the kiln can be sited anywhere, even in the kitchen. The small kiln shown below, for example, can be run from an ordinary cooker point.

Raw fuel. Raw fuel kilns are rather difficult for a beginner to fire successfully. They are fired by wood, coke or coal and need constant stoking to generate enough heat for efficient firing. It may take 24 hours to fire a kiln, depending on its size, which means that somebody will have to sit up all night stoking it with fuel. Kilns of this sort are usually home-built, and the design can vary widely.

Gas or oil. Gas- and oil-fired kilns are easier to use than those fired by raw fuel, but they also need to be watched constantly and can be a fire hazard if not used with extreme care.

They are very bulky, because gas and oil fuel is used under pressure and the kilns must therefore be equipped with insulation to cope with the pressure. Gas- and oil-fired kilns also have to be fitted to special chimneys which carry away the poisonous gases of combustion—an ordinary domestic chimney will not do for this purpose because the heat from a kiln is much more intense.

The advantage of using gas-, oil- or raw fuel-fired kilns lies in the variety of glaze effects that can be achieved. The oxygen in these kiln chambers can be removed, and this affects the colour and type of the glaze. Another advantage is that these fuels are still cheaper than electricity.

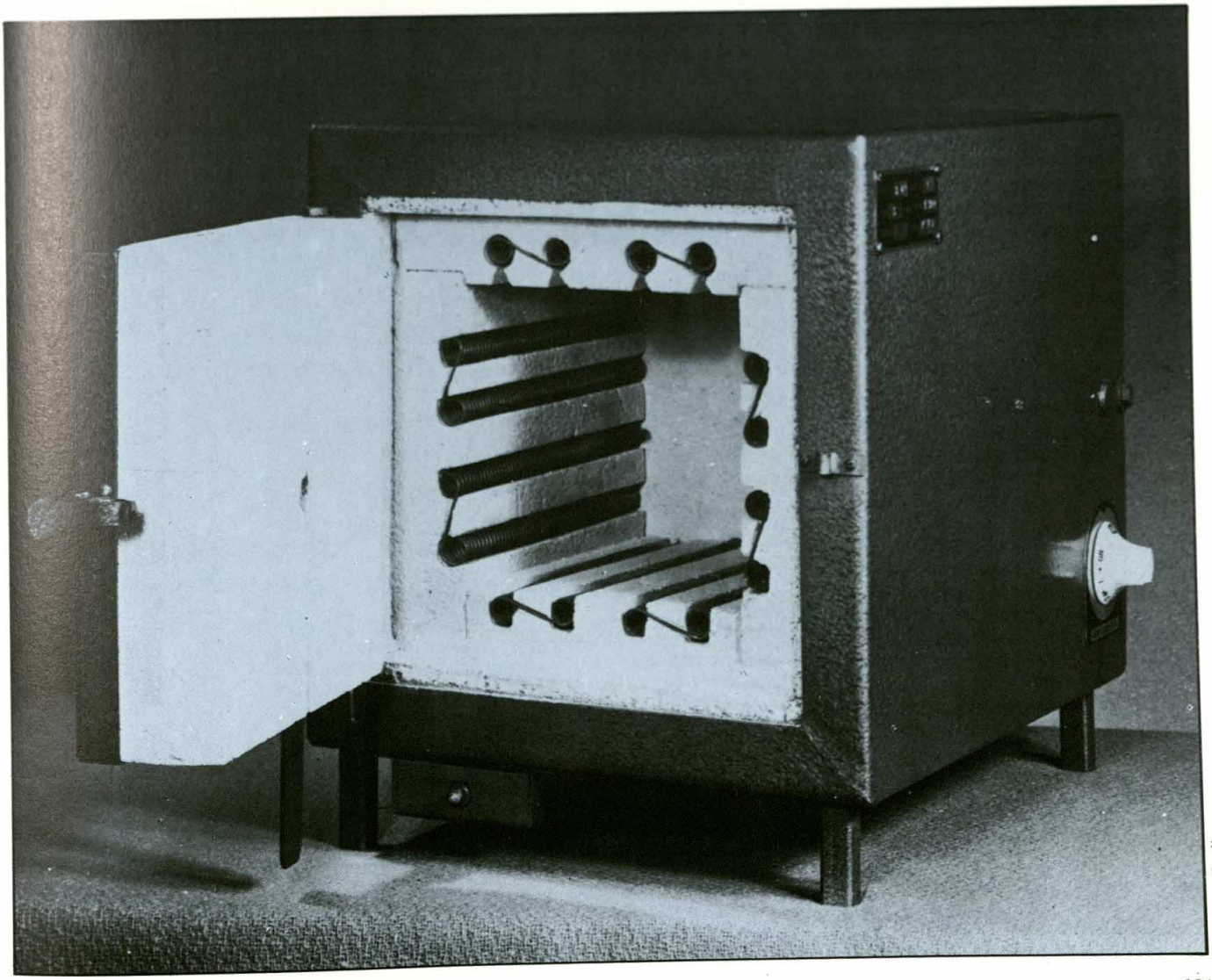
A kiln of your own

To buy. Kilns can be bought, like all other items of the potter's equipment, from the pottery suppliers.

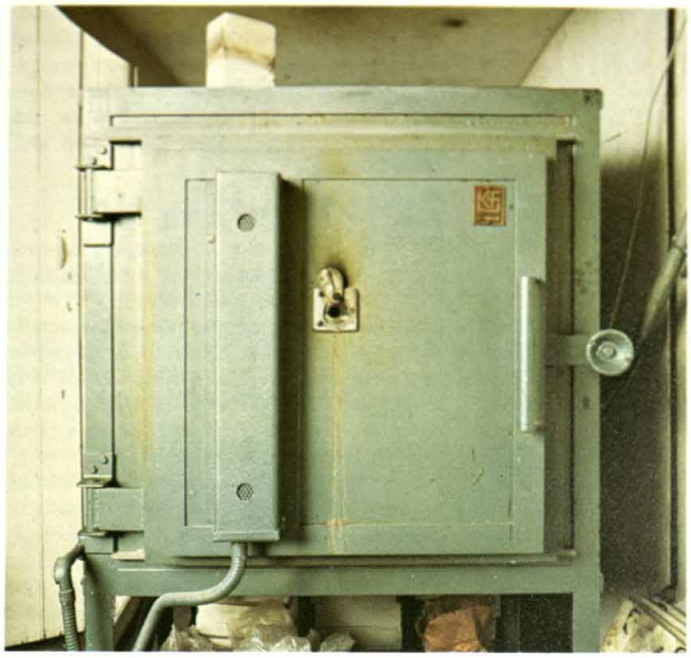
Large kilns are expensive, and usually take up too much room. It is possible, however, to buy a small, relatively cheap kiln which will occupy a small amount of space and can be run from an electric cooker point.

Before you go as far as buying a kiln, check carefully on its dimensions and make sure that your electricity supply is the right one. The dealer should be able to advise you, but it may also be wise to check with a reliable electrician.

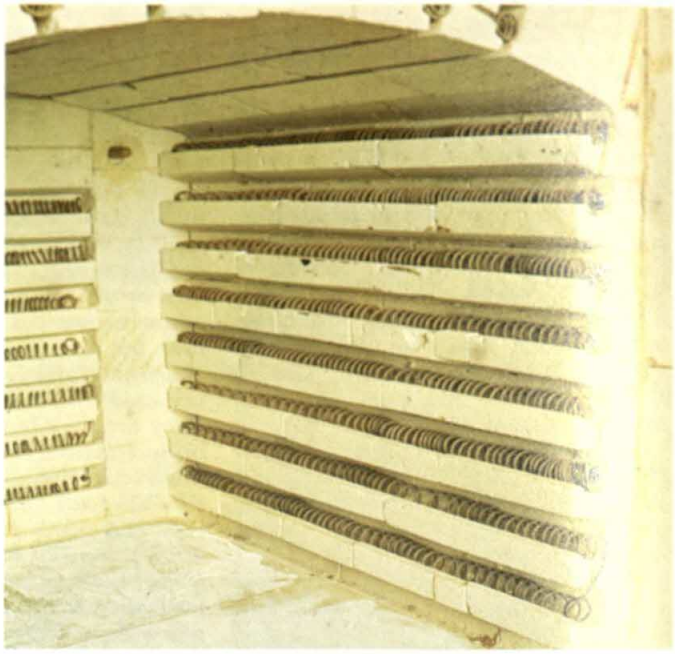
This 'test' kiln is the smallest and cheapest type of electric kiln on sale.



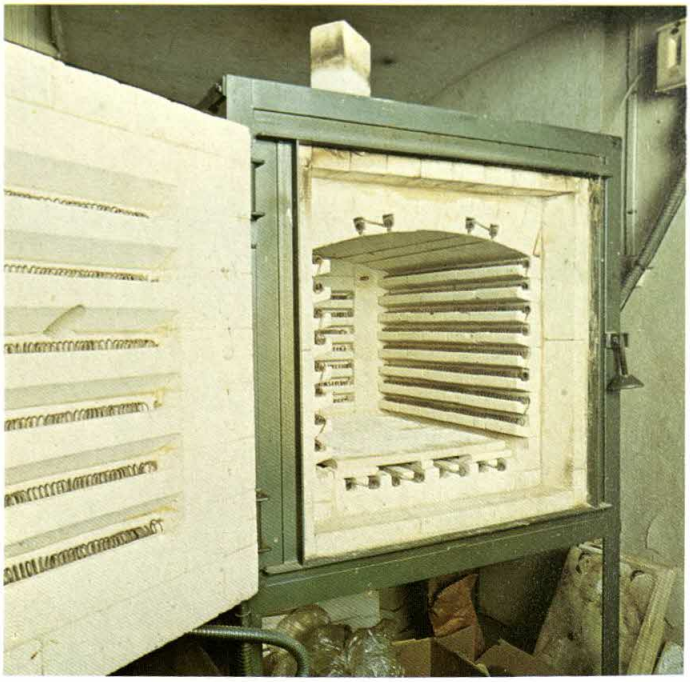
Greengates Studio



An example of a large kiln, as used in schools or colleges.



The refractory bricks carry rows of heating elements.



The inside of the chamber is lined with refractory bricks.

This small-size kiln is run from a 13amp domestic plug.

Special cheap electricity rates may be available if you fire the kiln during the night, so check with your local electricity board for comparative prices. An electric kiln can be run quite cheaply if you take advantage of these cheap rates.

To build. Building a kiln is difficult, and requires special technical knowledge and skill. It is possible to buy do-it-yourself kiln kits with plans, but even these are not easy for the average person to follow.

It is also possible to have a commercial company build in a kiln to suit your particular facilities and requirements.

Sharing a kiln

Most beginners find that it is easier to begin by making use of the facilities that already exist in schools and colleges.

Pottery evening classes are generally run by local education authorities and your local authority will be able to supply details of the classes being run in your area.

You may want to attend weekend or summer courses in pottery where the various equipment available for you to experiment with will include a kiln. These courses are usually advertised in pottery magazines and craft guides.

You may even be able to come to an agreement with a local potter who might allow you to use his kiln in return for a contribution to his running expenses.

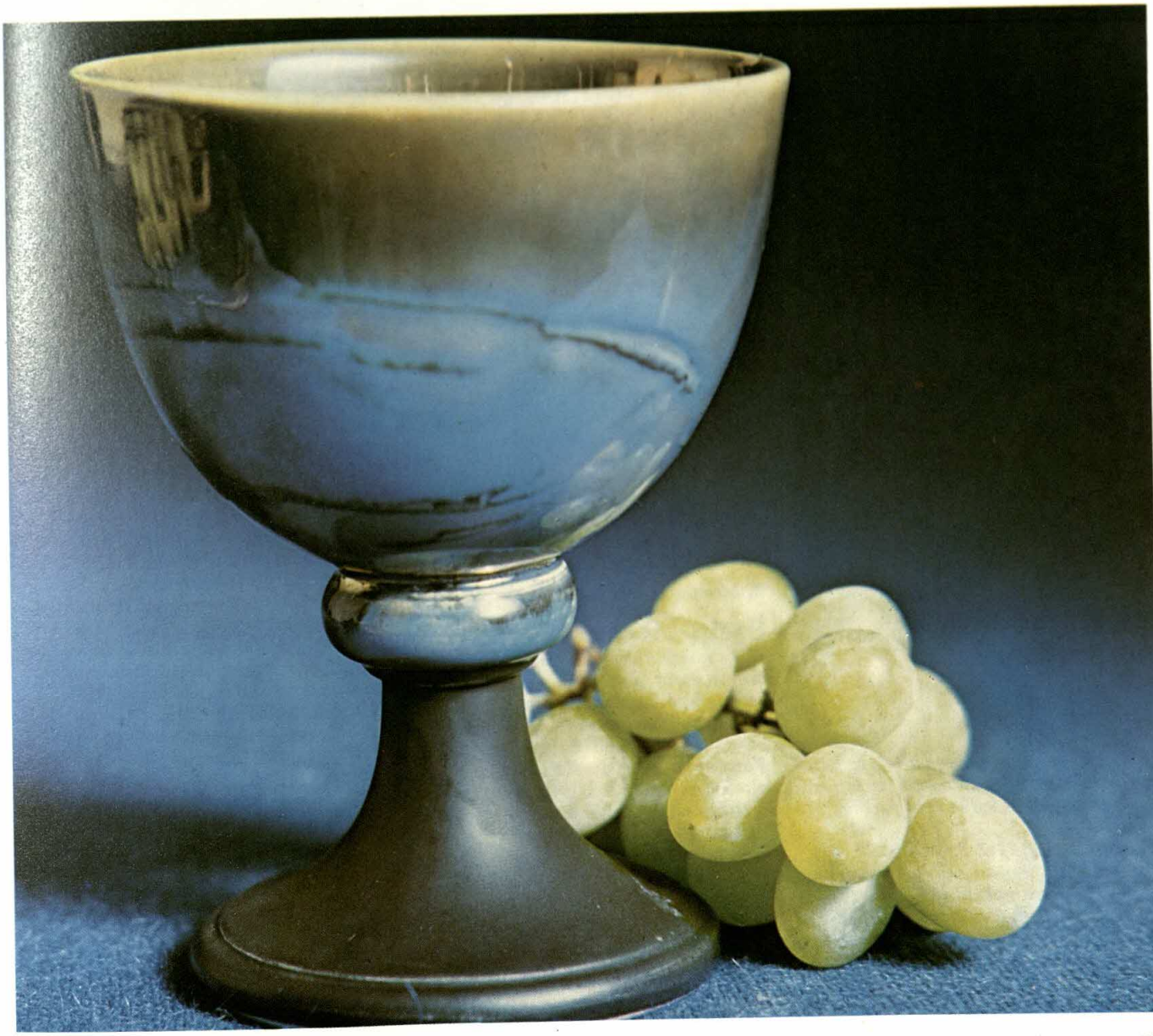
Finally, it may be possible to get together a group of pottery enthusiasts in your area with the object of buying and installing a communal kiln. Try advertising in the local paper, or putting up a notice in the adult education centre.

The next chapter deals with how to load and fire a kiln for a biscuit firing, and a further chapter deals with the first steps in glaze technology.

Johnnie Ryan

Earthenware clay fires at the lowest temperature and porcelain at the highest. Even within the main types there are wide colour variations in biscuit fired clay, as this group of red earthenware owls illustrates. Designed by E. Castro.

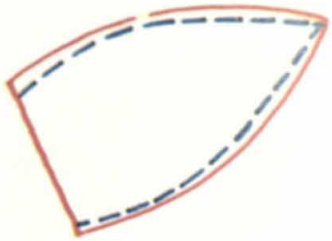
Below: this lustre goblet is a fine example of the glazing technique—the surface has a high, reflective shine on the blue and gold, and the depths of the blue are shot through with subtle rainbow streaks. Designed by Margery Clinton.



Dick Miller

Making hats in sections

Cloth — millinery 3



Millinery chapters 1 and 2 covered some basic techniques and gave instructions for trimming a ready-made straw shape and for covering a net Juliet cap. When you progress to making hats from scratch, the sectional cap is a simple style to start with. Instructions are given at the end of this chapter for delightful mother and daughter sun hats each made from a sectional pattern. Normal dressmaking fabric is used, and a reliable sewing machine and pressing equipment are the only basic essentials.

Mirrors

A full length mirror is a most important item of equipment for a milliner as it is important to see a hat in relation to your whole appearance. A hand mirror is also necessary, so that you can turn away and see the side and back views (fig.1). Like all clothes, a hat must look good from every angle.

Lesley Fox

1. *Using a long mirror and a hand mirror to check the side and back views of a shape tacked up in interfacing.*

Measuring the head size

The most important point to check at every stage of making a hat is that it will fit the head comfortably. As a hat is assembled it tends to get tighter, so you must always allow adequate ease. The hat can be tightened if necessary by stitching a petersham head ribbon into the headline when the hat is completed.

Head sizes vary considerably and as little as 1.5cm (⅝″) can make an important difference to the fit. Children's heads are not necessarily much smaller than those of adults, so it is essential to check their size. Place a tape measure round headline—ie the line on which the hat will fit comfortably (fig.2), then put the fingers of one hand inside the tape and check that this allows at least 1.5cm (⅝″) ease. Hats with brims and those made of thick fabrics need even more ease (these are dealt with in a later chapter).

2. *Measuring the head size.*

Sectional patterns

A sectional crown is usually made from six or eight pieces, but the number is quite flexible and partly depends on what the style calls for to make it full enough to fit and flatter the wearer. Four sections, however, is not a good choice as this number tends to produce a shape with rather sharp angles.

In many sectional patterns the shape is similar to the sole plate of an iron, which can be a useful guide if you are designing your own style.

If, however, the top or 'tip' of the final shape is to be smooth, the point of the iron shape needs to be narrowed considerably to avoid unwanted 'shoulders' of fullness (fig.3).

3. *Adapting an iron shape to make a pattern for a sectional hat.*

Pattern adaptations. The pattern for adult hat given opposite is designed to fit a 56cm (22″) head, with 1.5cm (⅝″) ease added. If your head size is different from this, divide your total measurement (not forgetting the ease) by the number of sections. Then correct the width of the pattern at the headline, adding or subtracting an equal amount to each side of the pattern piece. This applies to all sectional patterns.

When the paper pattern is cut out, fold it in half lengthwise to ensure that the two sides of the section curve symmetrically.

Note. The pattern is drawn without seam allowances so 1.5cm (⅝″) must be added all round when the sections are cut out in fabric.

Testing the style. To check that the style is flattering and correctly proportioned, it is always advisable to tack up a trial shape in some spare crisp, cotton fabric or interfacing.

☐ Cut out the sections with the centre of each one on the cross (see fig.5, cutting layout for sun hat), remembering to allow 1.5cm (⅝″) seam allowance all round each section.

☐ Using double thread and a No.6 straw needle tack them securely together. Start sewing from the brim edge using a knot and a back stitch, and tack right up to the points so that the shape does not come apart when it is tried on (see fig.6).

☐ Turn the shape right side out, try it on and check it carefully with the full mirror and hand mirror.

☐ Take in all the seams slightly over the curve if the shape is too full, or let them out slightly if there is not enough width. (Never make the whole alteration on only one seam as the shape of the hat will become unbalanced.)

☐ When the shape is really pleasing, mark the sewing lines lightly in pencil on each section and then take them apart.

☐ Press all the fabric pattern pieces with an iron and damp cloth, so that they can be used as the pattern for the top fabric.

Mother and daughter hats

On this and the next two pages there are patterns and instructions for two sun hats, each made in six sections, which can be folded flat for packing. The adult hat is designed to fit a 56cm (22″) head and the child's hat is slightly smaller, but either can be easily adapted to any size as described earlier.

Steve Bicknell

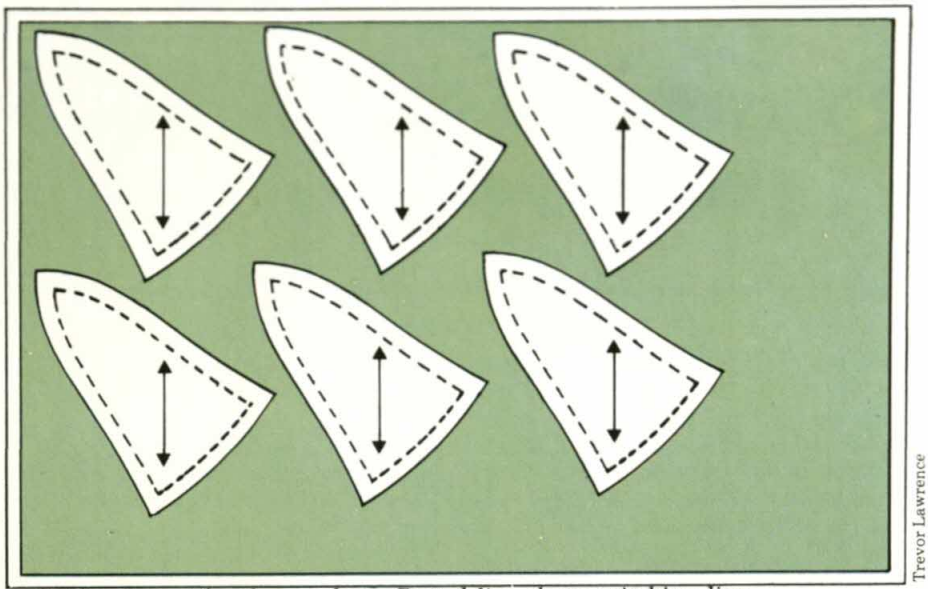
Alternate the fabrics for child's hat.

Trevor Lawrence

4. *Trace pattern for the two hats. Add 1.5cm (⅝″) seam allowance all round.*

Steve Bicknell

Mother and daughter sun hats in related prints. The brim of the adult hat is turned back sou'wester-style.



Trevor Lawrence

5. *Cutting layout for the sun hats. Dotted line shows stitching line.*

The adult's sun hat

As this hat is reversible, both sides are made up in the same way.

You will need:

50cm (⅝yd) crisp, green floral cotton fabric.

50cm (⅝yd) crisp, blue floral cotton fabric.

Toning thread.

☐ Using trace pattern (fig.4), make a trial shape in a spare piece of crisp cotton fabric and then use this as your pattern as previously described.

☐ Ensure that the top fabric is well pressed and that there are no creases in the pattern pieces.

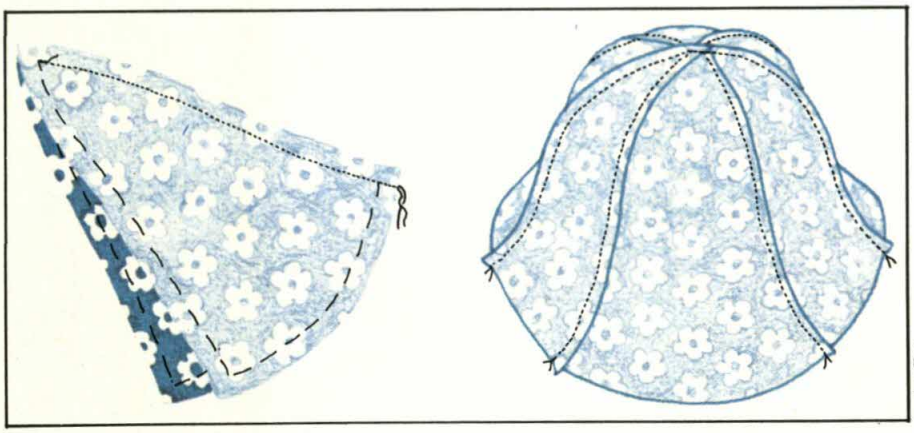
☐ Pin the six pattern pieces on to the wrong side of the blue fabric, with the straight of grain matching and the centre of all sections on the true cross (fig.5). Cut out.

☐ Mark in the stitching lines on the blue fabric with tacking stitches or tailor's chalk.

☐ Join the sections together, tacking and then machine stitching up from the lower brim edge to finish exactly on the point. Leave the turnings free at the point (fig.6). As you complete each seam, press turnings to one side and top stitch through all thicknesses from the right side close to the seam. This will hold the turnings in place, and the rest of the seam allowance can be trimmed away close to the top stitching.

Note. There are two ways of joining the sections.

Method 1. The sections are joined in pairs, and then the pairs joined together with the points meeting as accurately as possible. (A trimming such as a button can disguise a first attempt which is less than perfect, or a few hand stitches worked from the right side can help to draw the points more closely together.)



Lesley Fox

6. *Two hat sections stitched together from the lower brim edge to the point.*

7. *Two halves of hat joined with a continuous seam from front to back.*

Method 2. With more experience, however, the sections can be joined up to make the two halves of the shape. Then the bulk of the turnings at the points are trimmed well back on both halves of the shape. The two halves are then joined with a continuous seam, worked right over from centre front to centre back (fig.7). This seam is then trimmed, pressed, and top stitched to match the others.

☐ Cut out and make up the green fabric in the same way.

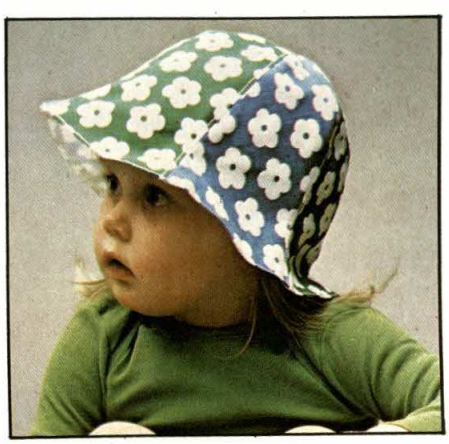
☐ With right sides together and matching seams, pull the green shape over the blue one. Tack and stitch around the brim edge on the stitching line leaving about a sixth of it unstitched. Trim the turnings to reduce bulk.

☐ Turn through to the right side, then turn in the last section of the brim.

☐ Tack around the whole of the brim edge, press, then work a row of top stitching all round close to the edge.

The child's hat

This hat is not reversible, but is made in alternating panels of two cotton fabrics and lined with a fine, plain cotton. It is made in the same way as the adult hat, from 30cm (¼yd) of blue cotton fabric, 30cm (¼yd) of green cotton fabric, and 50cm (½yd) of lining. Alternatively, it could be made up from scraps with each panel in a different print.



Knotted braids and ropes

Yarn — macramé 5

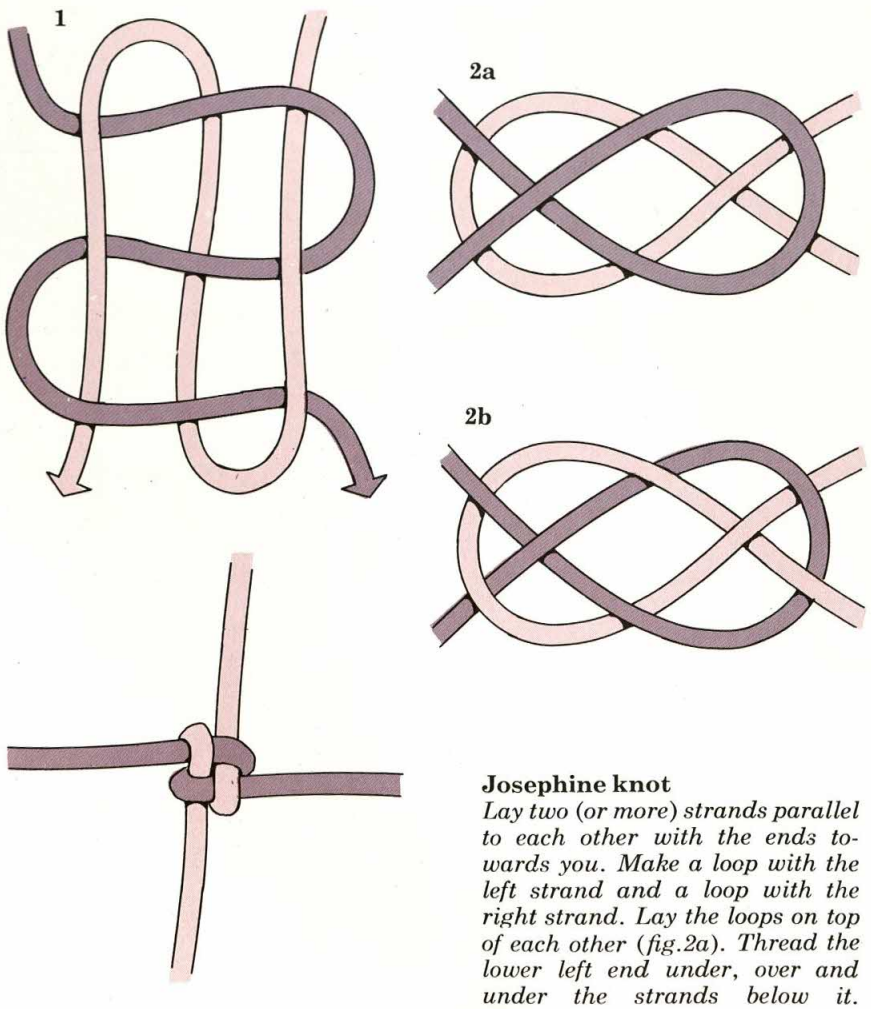
Once you have acquired a knowledge of the basic macramé knots, the possibilities for making braids are endless. Not only can the knots be combined in a great many different ways, but by altering the position of the colours in the same braid the total effect can be changed.

Other possibilities for knotting are to use two or more strands, to combine different textures and thicknesses, or to try out the effect of using different materials. This means searching in shops such as stationers, drapers, upholsterers, fishing-tackle shops, ships chandlers and ironmongers, and also approaching suppliers of butchers' and poultry twine.

The yarn you use depends upon the use to which the braid is to be put. For example, Russian braid, which is small and delicate and has a soft texture, makes it suitable for dress or buttonhole trimmings, while leather thonging would make a hard-wearing belt to go with trousers.

To be creative with macramé, you must decide upon the most suitable type of material for the particular purpose, choose the colours, set up several experimental strands (having noted their length), and try different combinations of colour, knots and numbers of strands. When a satisfactory braid is produced, the length of string left, compared with the original length, will show how much is needed to work that length.

Three decorative knots are introduced here which will be valuable additions to your repertoire of knots.



Paul Williams

Chinese button knot
Using two strands of yarn arrange them as shown and pull the knot firm until it is closed up.

Josephine knot
Lay two (or more) strands parallel to each other with the ends towards you. Make a loop with the left strand and a loop with the right strand. Lay the loops on top of each other (fig.2a). Thread the lower left end under, over and under the strands below it. Thread the lower right end over the strand above it (fig.2b). Pull the knot firmly until it is closed up. A Josephine knot can be made with any number of strands.

Yarns and knots

A. Chinese button knots (see also fig.1) —overhand knots could be used instead —in medium-weight cotton string.

B. Josephine knots (see also fig.2) in dark brown fishing line, Atlas Nova cord and string.

C. Flat knots (Macramé chapter 1, page 176), well spaced out, in leather strips show the right and wrong side of the leather.

D. Vertical and horizontal cording knots, (Macramé chapter, 1 page 176) in upholsterers' twine. The twine is fine, strong and comes in quite a wide range of colours.

E. Solid diagonal cording in wool. The top section shows a random colour pattern, but by rearranging the strands, by making one half a reflected image of the other, a repeating motif appears. The beads emphasize the two halves of the braid.

F. Alternating flat knots in the centre of the braid with one and a half flat knots at either side. The yarn is stationers' string.

G. Nylon floss corded over vest cotton has small beads threaded on the vertical strands inside the curves.

H. Basically, this braid is a four-stranded plait. It is made up of two strands of sisal and two of tubular rayon yarn. The sisal strands are held firmly so that they remain straight while the rayon strands are plaited around them.

I. Atlas Tubular rayon cord in two colours, with one almost entirely hidden by the cording. The cording is worked to form diamond shapes which can be filled with various motifs, such as by weaving or twisting the strands or by forming flat knots in different combinations.

Right: nine different braids which achieve their effect from the combinations of texture and some unusual knots, designed by Germaine Brotherton.

Iain Reid

Iain Reid

Using colours

J(i). The long loop, with black beads dividing it into sections, is a flat knot chain using four colours of yarn, and according to the position of each colour—in the core, or working on the left or right—any of the twelve different colour combinations can be produced.

J(ii). The braid in the centre of the loop was the result of a mistake (it is always worth looking twice at a mistake). The flat knot 'capsized' into two single cording knots. If you cannot make a 'mistake' too, simply follow the direction of the yarn in the photograph.

K(i). A half flat knot spiral which has the core in one colour and the working ends in another.

K(ii). A half flat knot spiral with two colours for the core and two for the working ends.

K(iii). A chain of flat knots worked with two strands and without a core.

K(iv). The colours are arranged in the following order—one black, two red and one black. A flat knot is made with the two outer strands worked over the core in the usual way, and then the colour last used (in this case the black) becomes the core. Continue alternating the colours for each knot.

K(v). Alternating flat knots can produce a narrow or wide braid or a fabric, if done on a large scale. The closest texture, at the top, is the result of working one flat knot with each group. The braid is built up with alternating flat knots, and the number per row is increased to finish with three flat knots per row.

L(i). Two spirals of single cording knots, one worked with the right strand and one with the left strand.

L(ii). Two knotted chains. (Macramé chapter 1, page 176), using two different colours.

L(iii). The two knotted chains combine to make one knotted chain using all four strands.

M(i). This braid consists of a working end on either side of a core of two strands. Each working end in turn is used to make a single cording knot, first round one core then around both cores.

M(ii). The braid consists of the same knot as M(i) except that each working end is worked round both cores and gradually builds up to five knots made alternately on each side to give a shell-like effect.

N(i). The single cording knots are made to lie flat for this braid by working them alternately over and then under the core. The braid curves readily and, because of this, is ideal for covering curved handles, as it is smooth on the inside and the extra space on the outside of the curve is taken up by the knots.

N(ii). This is worked in the same way as above except that the strands are used alternately to form the knots.

N(iii). Four strands are used and the outside ones are knotted in the same way as (Ni) over the two-strand core.

N(iv). The knots are made in the same way as for N(i) but with the outer strands used alternately before completing the knot.

N(v). Worked over a core of two, first from one side and then from the other, the working strands are then laid in the centre to form a new core and the other strands are used for working. Pull the knots tight to make a firm braid.

N(vi). Worked in the same way as N(iv) but with the two sets of knots joined by switching the white strands from one braid to the other every time they are due to start a knot.

Take note of the starting and finishing of the braids. The little stand-up loops are called picots and may be adjusted to any size. The knots used for finishing include constrictor and overhand knots.

Decorative finishes

Fringing is one of the most attractive finishes and may be done by adding all new strands or by using the working ends only, or a combination of the two. The easiest way of adding the strands is to use a crochet hook to draw the ends, bent to form a loop, through the edge of the article and then drawing the ends through the loop with the hook. The strands can then be trimmed to make an even fringe, or knotted together for a more elaborate edge.

A silky yarn will probably hang straight and require little extra work, while cotton and sisal can be made fuller by unravelling the ends of the individual strands.

If the fringe is to be made up of small tassels, they can be held in place by an overhand knot or a short strip of flat knots.

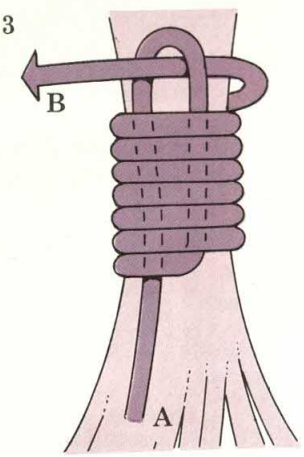
A simple whipping always makes a firm, neat finish to tassels (see braid E and fig.3). Alternatively a constrictor knot (fig.4) will hold a group of strands firmly in place too.

To make tassels thicker. When the knotting is completed, the fabric may be further extended by weaving the ends over and under to form a lattice. Then, to add the extra strands, arrange the ends in groups of four and tie them loosely by taking one group up, over and behind the other, in the same way as for the first half of a flat knot.

Over the join that has now been made between the two groups, arrange four extra strands, folded in half to make sixteen strands in all. Hold all the ends in place with whipping (fig.3). Trim the ends.

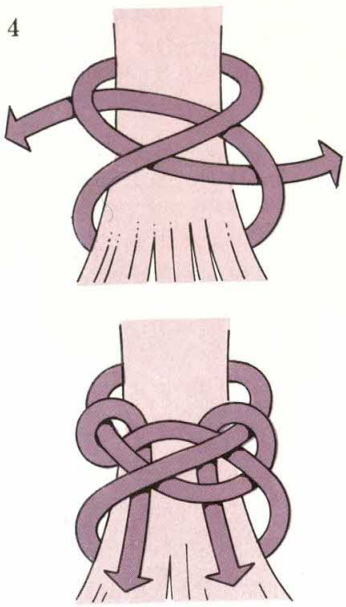
Left: most of these braids consist of cording and flat knots. Their effect is in the skilful manipulation of colour.

3



3. Whipping
One end A can be left as long as the tassel after forming a loop where the whipping is to stop. Start wrapping at the lower end of the whipping, keeping the windings very close together. When it is deep enough the end B is threaded through the loop and, by pulling on end A, the loop pulls B down and hides it within the whipping.

4



4. Constrictor knot
Place both ends of a strand of yarn around the braid as shown and draw the ends through the centre of the knot. Tighten by pulling the top loops and then the ends.

Paul Williams

Tapestry sampler continued

The tapestry sampler started in the last chapter introduces all the basic tapestry techniques in creating shapes and gives a good grounding in weaving skills. It is also an interesting object to hang on your wall.

Making the frame loom and putting on the warp is covered in Weaving chapter 6, page 572. Chapter 7, page 600 deals with making the cartoon and the first section of weaving—a band of black. With the full-size cartoon hanging behind your loom as a visual guide, follow the directions for the next sections to continue with the sampler.

Section Two

The width of the warp is now divided into three equal parts in the design. The black weft is continued up the two outside thirds for 2.5cm (1") and a white weft is introduced into the middle third.

To create a clear-cut division between the three areas of colour you will have to join the black and white wefts in a vertical line.

Joining vertically

There are three basic methods of joining two sections of weft to make a vertical line.

Method 1. The simplest way of making a vertical join is to pass the coloured wefts around a single warp end (fig.1). This method soon leads to a build-up of weft around the common warp and consequent bulge in the weaving.

Method 2. Paradoxically, this build-up can be decreased if alternate groups of three weft picks (rows) are looped around the same warp end (fig.2). The subsequent beating down will dovetail the loops into each other in the form of a point (fig.3). However, the saw-toothed effect is increased.

Method 3. A modification of this join, which is the one used in Section Two, joins the black and white wefts over three warps (fig.4). This method of joining is strong and because the join is staggered over three warp ends it can be continued for any height without four of build-up.

To make the vertical join. Starting with the left side black weft, weave up to the warp end 2 (fig.5). This is the middle end of the three around which the join will be formed.

☐ Pass the weft around it and return to the left selvedge.

☐ Return with the black weft and go around warp end 1. Return it to the selvedge.

☐ As you can see from fig.5, it is necessary to weave both the black and white pieces alternately to make the join, and a strict order of weaving must be maintained. This process is slightly more complicated than at first glance because Section Two has two joins and both must be worked together, as the white centre weft plays its part in each join.

The whole width of the warp must be worked step by step as both joins must be formed at the same time.

☐ Taking the white weft, which should start from the right hand side of the centre third, weave until end 3 is reached (fig.5).

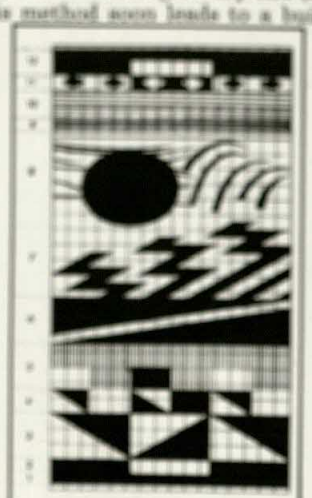
☐ Take the white weft around end 3 and return to the other side of the white section.

☐ As the join has also to be repeated on the right-hand side, pass the white weft around warp end 5 as shown (fig.5).

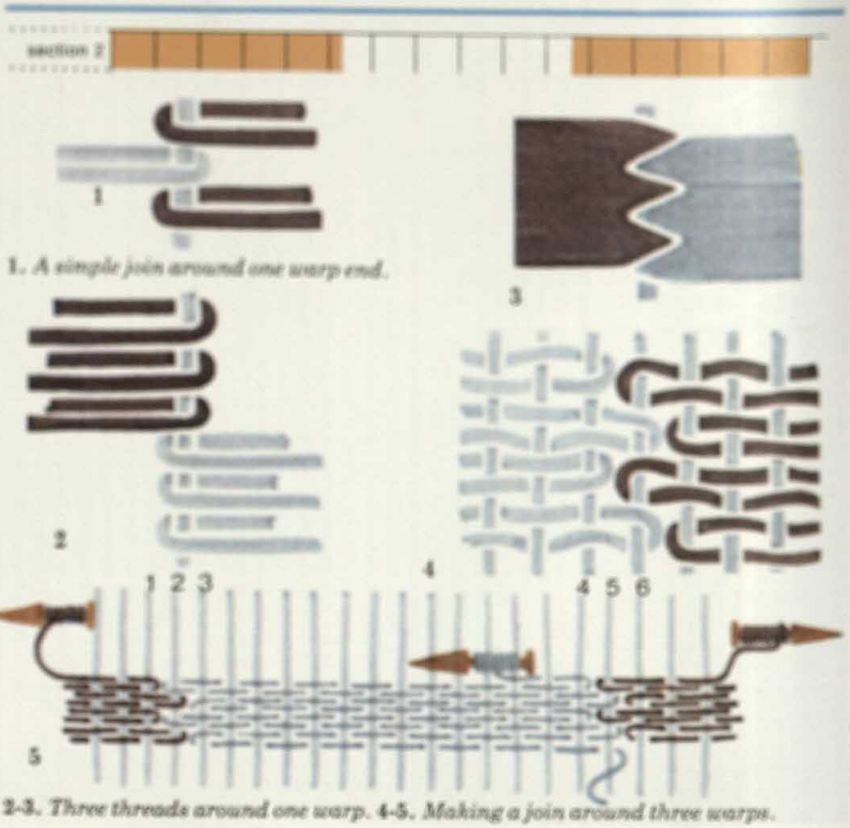
☐ Return the white weft to the left-hand side and pass it around end 2.

☐ Start the black weft on the right-hand side and weave up to and around end 6.

☐ Continue this process for 2.5cm (1"), making the two joins simultaneously. Do not forget to beat down well with the point of your bobbin.



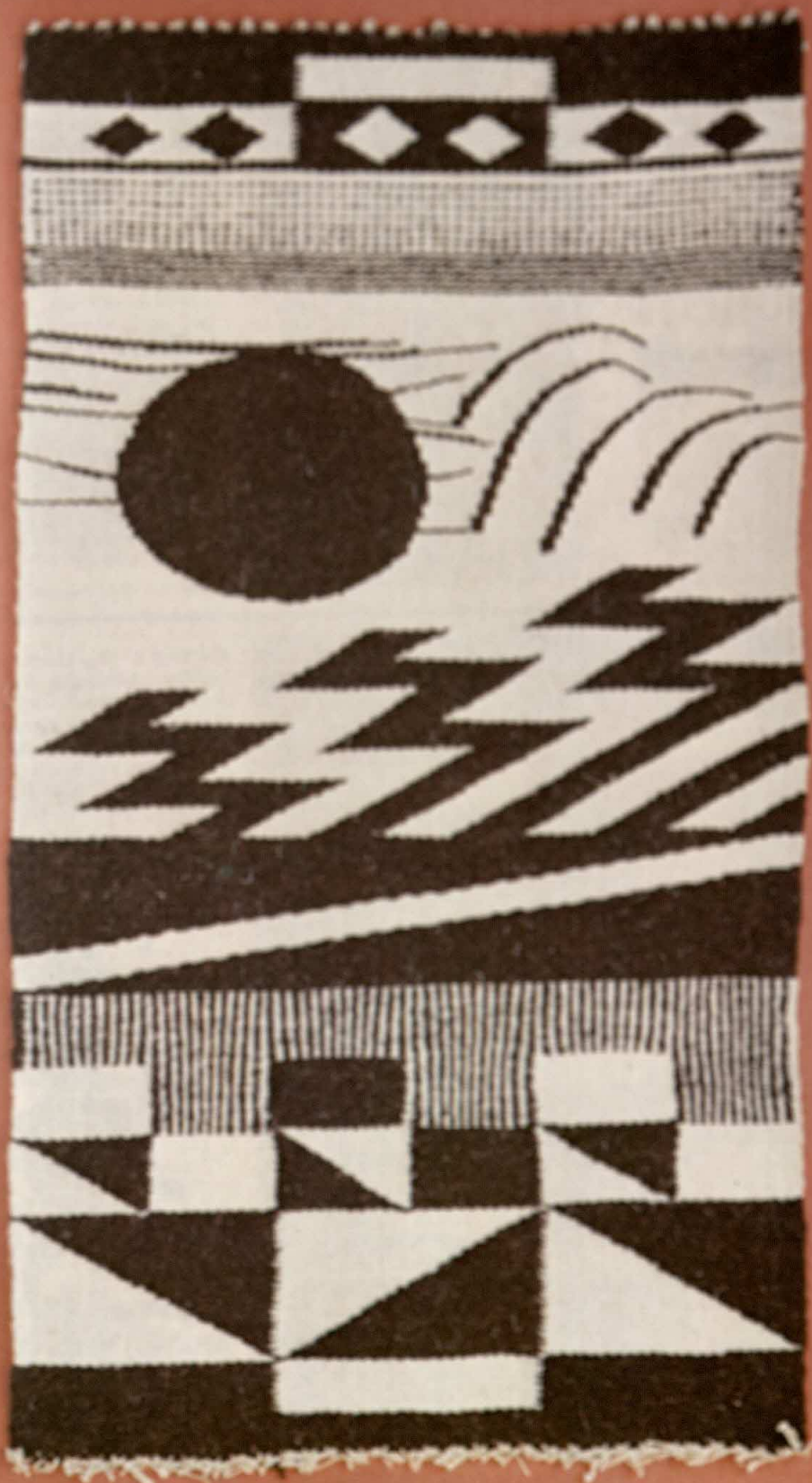
This chapter deals with sections 2 to 5. Each square is 2.5cm sq (1" sq).



1. *A simple join around one warp end.*

2-3. *Three threads around one warp.* **4-5.** *Making a join around three warps.*

Victoria Dove



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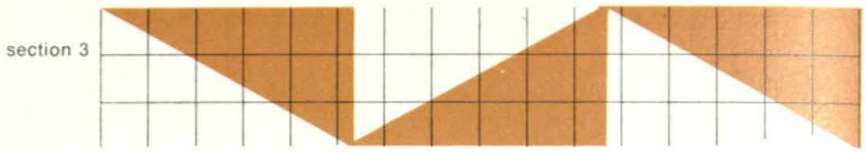
Section Three

In this section, the vertical joins between the three main sections are made as in Section Two, method 3.
The triangles are woven by increasing or decreasing the number of warp ends covered by each pick.
Diagonals. The angle of incline of the diagonal is controlled either by the number of times the weft is taken around the same warp end (fig.6) or by reducing the number of warp ends covered by the weft by one or more at a time (fig.7). The first method produces a steep incline, the second a flatter one. In Section Three, the increase and decrease is by one warp end (fig.7).

Dick Miller

Detail of vertical join and a diagonal.



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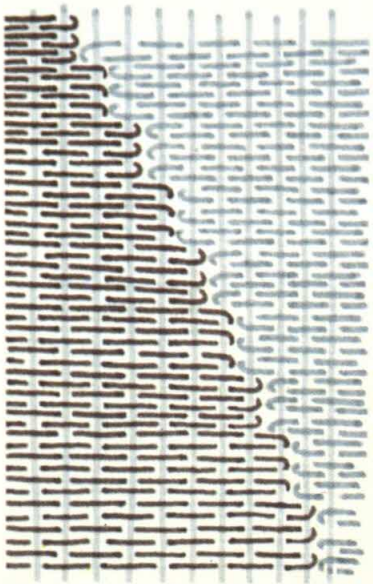

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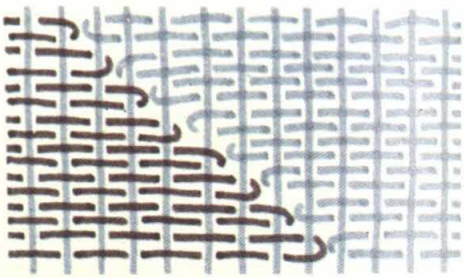


6. *A steep incline is produced when more than one weft is passed around each warp end.*
7. *A gradual incline is produced by reducing the number of warp ends covered by each weft pick.*

Section Four

The diagonals are woven as in the previous section, increasing and decreasing by one warp end.
The method used here for weaving the vertical join is by weft interlocking. This method gives the best definition between the two colours.

Weft interlocking

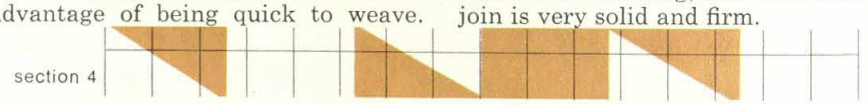
Again there are three variations.
Method 1. The first is formed by interlocking the black and white weft picks between the two warp ends (fig.8). The two colours always interlock in the same direction to ensure the clearest division between the two colours. A certain amount of build-up will occur with this method.

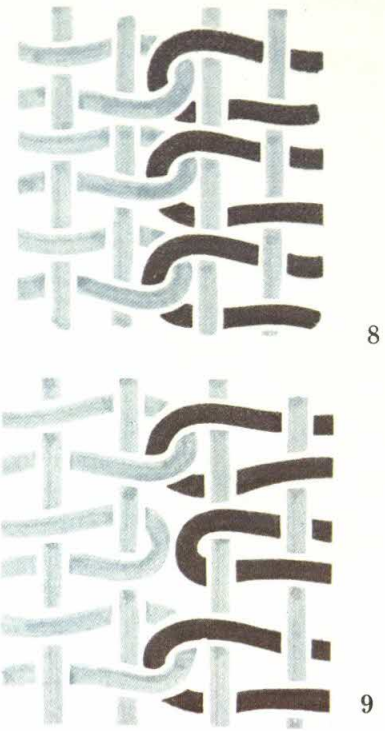
Victoria Drew

A series of steps creates a diagonal.

Method 2. A variation of this is the method used in the sampler. The interlocking occurs at every other junction of the two colours (fig.9). This prevents any build-up and has the added advantage of being quick to weave.

Method 3. The third system of interlocking also gives a clearly defined division between the two colours (fig.10). This is slightly more complex and time consuming, but the resultant join is very solid and firm.





8

9

10

8. *One method of weft interlocking.* **9.** *Interlocking at every other junction reduces the weft build up.* **10.** *A more complex method of weft interlocking.*

Section Five

The vertical joins between the three blocks of solid colour and the black and white stripes are made in the same way as the verticals in method 2 of Section Four.

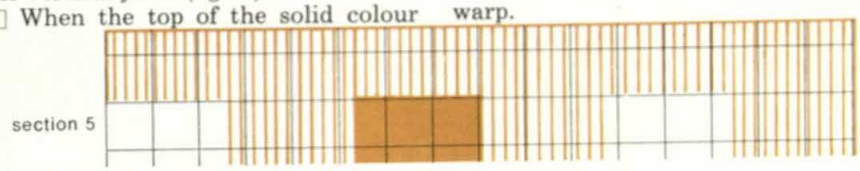
Vertical stripes

Weaving vertical stripes is very simple.

☐ Weave one pick with the black weft and then one pick with the white. After a few rows you will notice that the black and white wefts respectively always cover the same warp ends, thus producing the striped effect (fig.11).

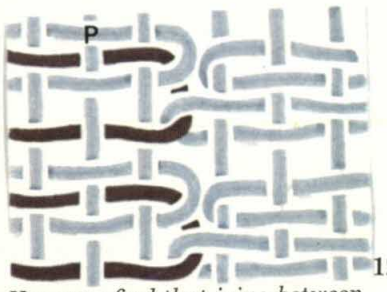
In the first part of the section, where the stripes are between the solid colours, a little practice will be needed in order to weave neat divisions at the vertical joins (fig.12).

☐ When the top of the solid colour blocks is reached, continue the striped effect across the whole width of the warp.



11. *Forming vertical stripes.*

Rows in alternate colours form stripes.



12a

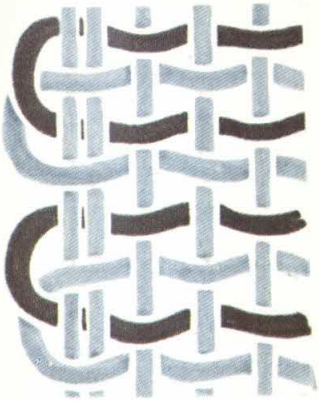
12b

12. *You may find that joins between stripes and blocks sometimes look muddled and ill-defined (as in* **12a**). *To make the join between them sharper, leave enough slack on the black yarn so that you can pull the white picks (P) and draw the black yarn into a loop at the back. This makes the stripes run neatly right up to the block. With a straightforward join where the stripes look clear* (**12b**), *no loop forming is necessary.*

Selvedges

When weaving one pick of one colour followed by a pick of another colour, cross one over the other at the selvedge so that they lock (fig.13), or else the selvedge will be missed.

A neater way of forming the selvedge is to leave a loop which is pulled round the selvedge to the back of the tapestry by the other weft colour (fig. 14). With this method, the crossing of the wefts is not shown and the striped effect is continued right to the edge.



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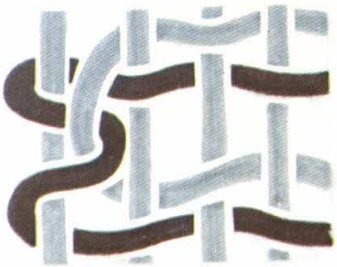


14

Back of tapestry

Dick Miller

Your tapestry should have a neat, straight edge. If not, check your tension.

13. *Locking at the selvedges.* **14.** *An advanced technique for selvedges.*

Cutting shapes with curves

Wood — carpentry 9

The most frequent excuse for not making carpentry projects in the home is firstly that there isn't enough space to work, and secondly that it is too messy. But this is not necessarily so. A fret saw or coping saw does not require much room, and therefore tidying up afterwards is easy. In fact the coping saw operation is perfect for even the smallest flat. It is easy to set up and is so small that storage is no problem.

Besides the designs and illustrations shown here, you will think of many more uses for the coping saw. Any piece of wood will lend itself to some purpose, and no doubt a particularly interesting surface will inspire you.

To start with you can cut any odd shapes for practice, and paint them to make colourful decorations.

Decorations

Plywood decorations are easy to make and once you have assembled the tools and materials they should not take more than an hour or so to finish. You can make seasonal decorations and paint them bright glossy colours or you can adapt them to make mobiles. Cut out animal shapes and make a zoo for the nursery, or glue them to a block of wood to make them free-standing.

Apple decoration

You will need:

Tools (as for Carpentry chapter 8, page 548).
A fine file for smoothing edges.
Plywood, 3mm ($\frac{1}{8}$") thick and 10cm x 8.5cm (4"x3$\frac{1}{4}$").
String, wood glue.
Fine grade glasspaper.
Stains, paint or polyurethane varnish.

☐ Trace the red part of the design (fig.1) on to the plywood and cut out the outline.

☐ Cut out the green leaves in the same way.

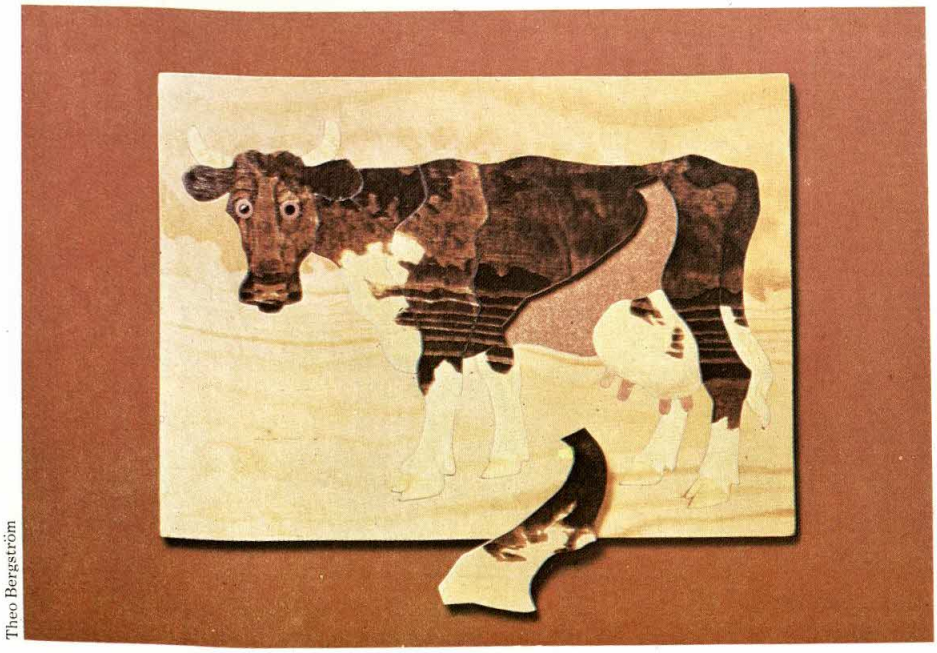
☐ Sand lightly.

☐ Stain or paint the apple red and the leaves green.

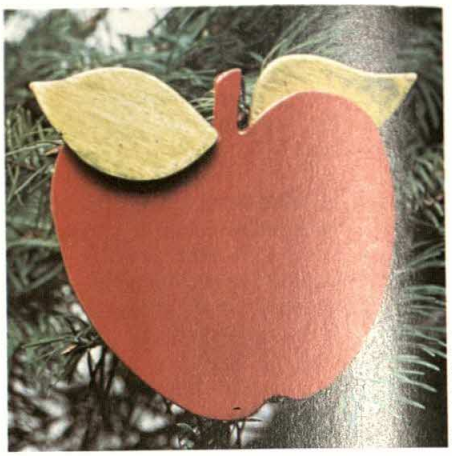
☐ Glue one leaf on either side as shown in the photograph. Put a piece of string under each leaf to form a loop, or you can drill a small hole in the stalk to suspend the apple.

There are many other shapes you can cut. For a mobile you can use assorted fruit shapes, and for seasonal decorations there are the obvious shapes such as Christmas trees, angels, and stars.

One of the most appealing jigsaw puzzles you can buy, made from stained plywood by the Kingsway Community Workshop.

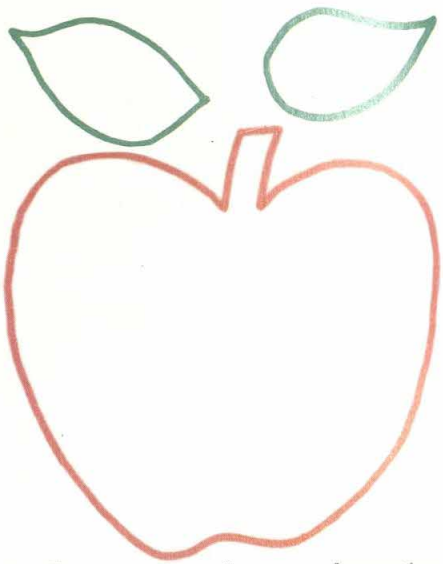


Theo Bergström

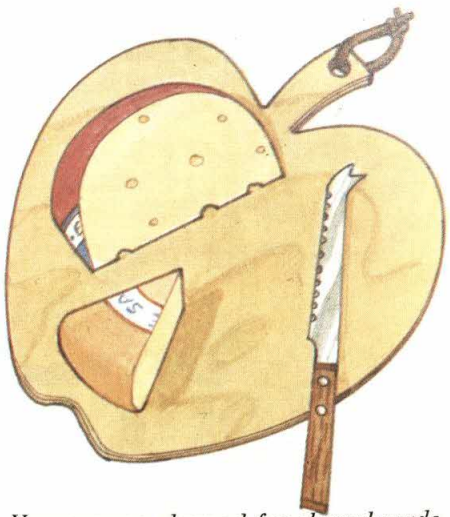


Alasdair Ogilvie

Tree decoration, finished with polyurethane varnish and suspended by an 'invisible' nylon thread.

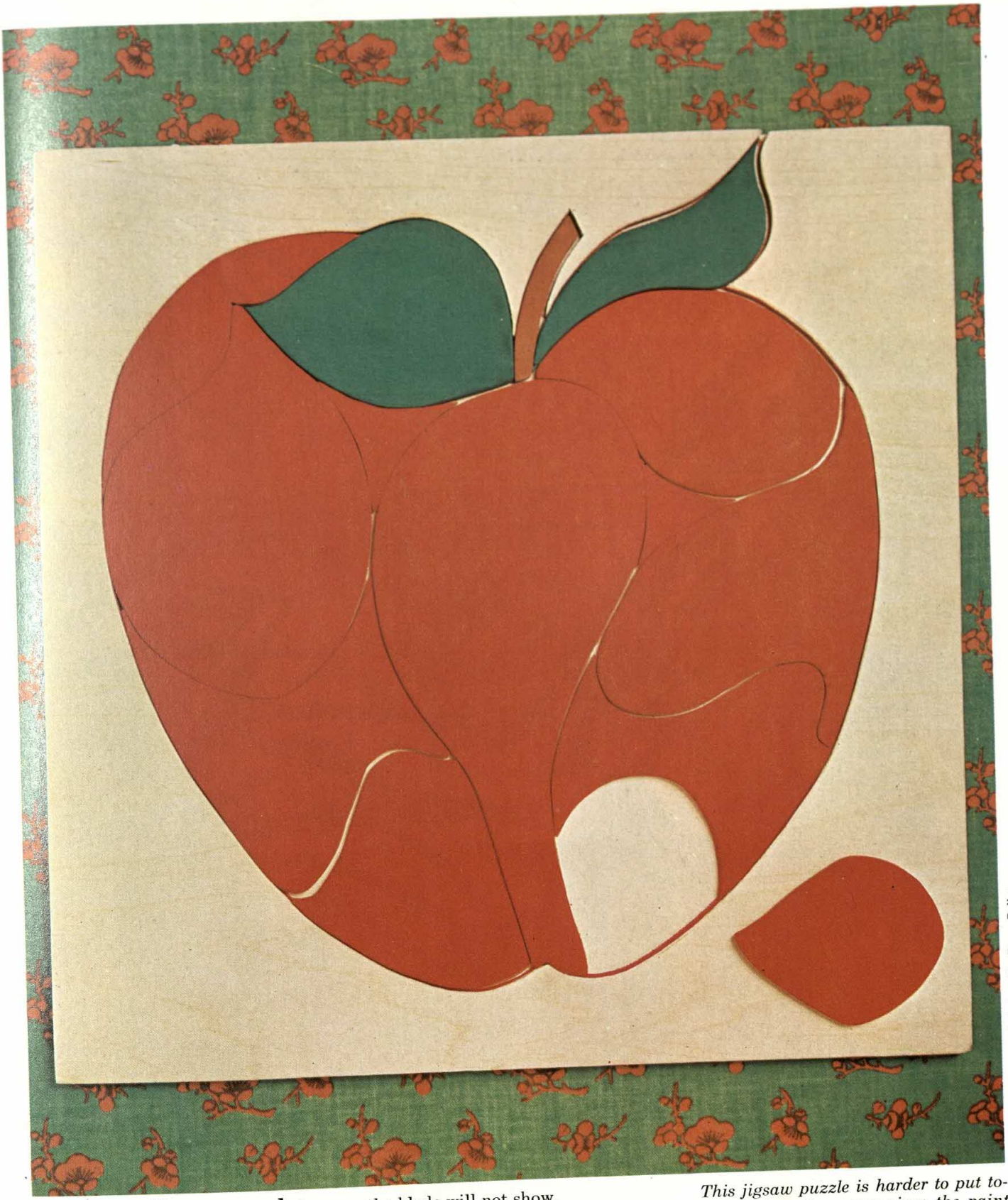


1. *Trace pattern for tree decoration. Enlarge the same outlines on to paper for the puzzle, then integrate the leaves before transferring the design on to plywood.*



Paul Williams

You can use plywood for cheeseboards, but it is not suitable for a breadboard as a bread knife will tear plywood.



Dick Miller. Jigsaw puzzle designed by Roger Polley

This jigsaw puzzle is harder to put together than it appears since the paint finish obscures the grain.

To make a jigsaw puzzle

You can go on to extend the idea of the apple by enlarging it and cutting it into a number of pieces.

On a piece of plywood, approximately 31cm (12″) square, draw the apple and cut it out. Start the saw cut at the stem where the small hole for inserting the blade will not show.

Cut the apple into any number of pieces and then smooth with fine grade glasspaper. Stain to finish.

The surrounding piece can be mounted on to another piece of plywood of the same size. Simply glue the two pieces together.

You can paint the inside, or core, of the apple on this backing board so that when the jigsaw pieces are removed the inside of the apple shows.

Shade for wall lamp

This lampshade will soften the light by casting it up and down from the shade, and create soft circles of light on the cut-out front. The shade is about 59cm (23″) long, 12.5cm (5″) wide, and projects 15cm (6″). It can be used above a bed, dressing table or in an alcove or hallway.

You will need:

1.5mm ($\frac{1}{16}$″) plywood, 12.5cm (5″) wide, 1.5m (60″) long.

Piece of softwood, 2.5cm x 2.5cm (1″x 1″), 2.3m (90″) long.

Medium and fine grade glasspaper.

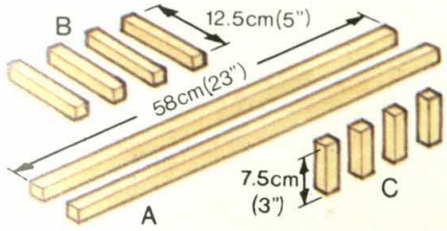
Wood glue.

G-clamp, coping saw, other saw, such as a panel saw, for softwood.

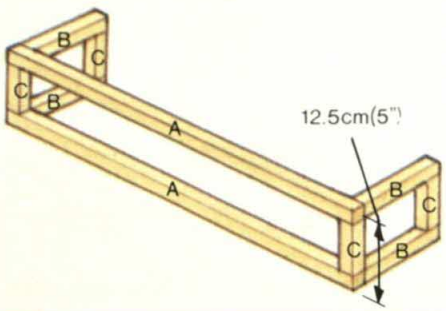
3cm ($1\frac{1}{4}$″) panel pins and 12mm ($\frac{1}{2}$″) panel pins, about 20 of each.

4 L-shaped metal brackets and screws.

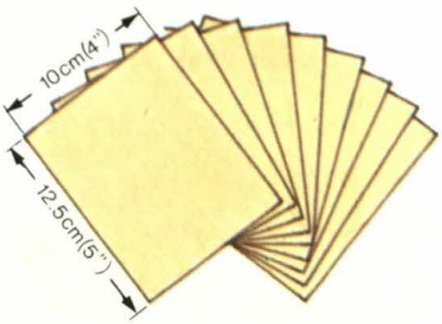
1. Cut softwood into strips to the lengths shown. Cut 4 pieces (C) to fit between the 2 long strips so that the total width when they are placed between them is just under 12.5cm (5″).



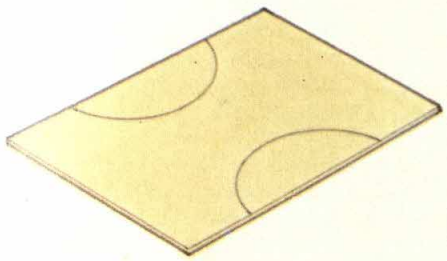
2. Using the 3cm ($1\frac{1}{4}$″) panel pins, assemble and nail a frame as shown.



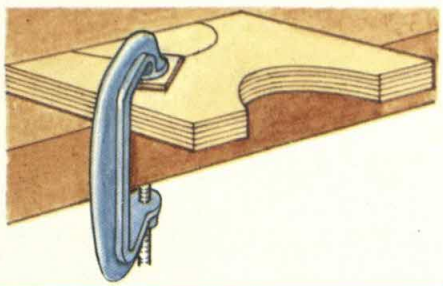
3. Cut 9 plywood pieces as shown.



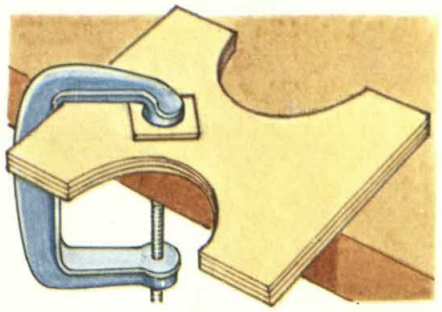
4. Mark a semi-circle with a diameter of 6.5cm ($2\frac{1}{2}$″) centrally on both 12.5cm (5″) edges of one piece of plywood as shown. (Use a glass with approximately this diameter.)



5. Stack 5 of the plywood pieces and cut out the semi-circle on one side only. If you find it easier you can use a G-clamp to secure it.



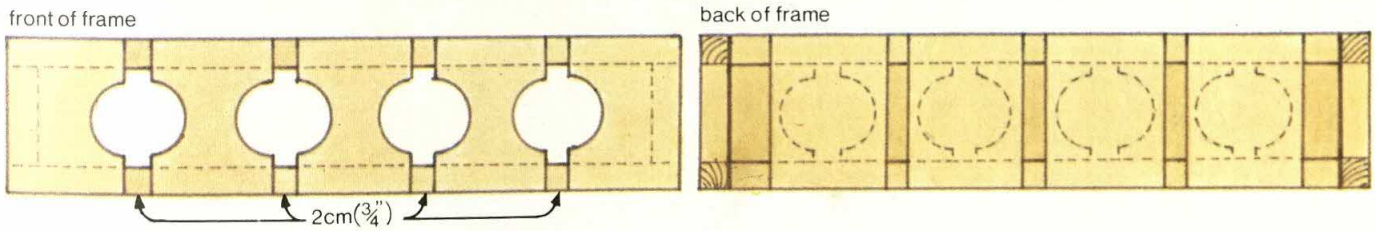
6. Set aside 2 of these pieces. Stack the remaining 3 and cut out the semi-circle on the opposite side.



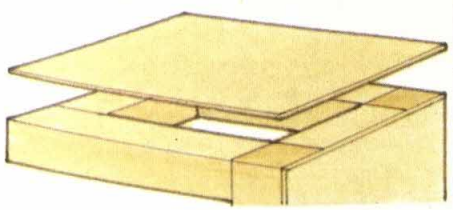
7. To obtain a smooth, even curve, finish with the medium grade glasspaper.

8. Assemble the plywood on the front of the frame, spaced as shown, and glue into position.

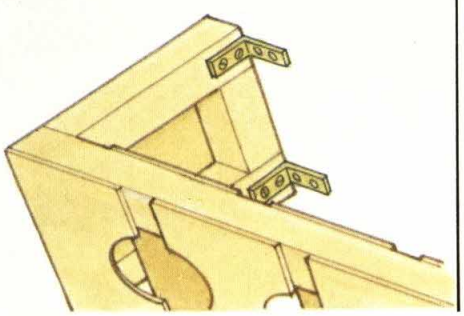
9. Glue the remaining 4 square pieces to the back of the frame to cover the circles made by the front pieces.



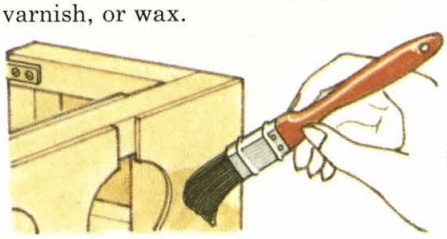
10. Measure the sides of the frame and cut out 2 plywood pieces to fit.
Glue the 2 pieces to the sides. You can use 12mm ($\frac{1}{2}$″) panel pins to secure them, but do set them with a nail punch for a neat appearance, and finish off with the fine grade glasspaper.



11. Screw the metal brackets to the back to attach the lampshade to the wall.



12. Finish with a matt polyurethane varnish, or wax.



Paul Williams

Opposite : shade masks a tungsten architectural strip bulb above a hallway mirror. Designed by Alf Martensson.

Johnnie Ryan

More about batik

Batik is called a 'resist' process because the hardened wax (applied in liquid form) seals off areas of the cloth which then 'resist' the dye in the dyebath. This makes the design. Resist processes such as batik and tie-dye are very ancient, and it is intriguing to speculate on how they may have accidentally originated. For instance, in the case of batik, a bit of tallow may have been spilt on to cloth about to be dyed, and later when the error was discovered, the appealing pattern produced caused some ingenious observer to realize the potential of wax resist. In this way a mishap may have led to the discovery of a new art form.

Dick Miller

Brass-nozzled implements called tjantings are the traditional Javanese batik tool.

Traditional batik tools

Several different methods of applying wax to cloth have developed over centuries, and the best one depends somewhat on the effect you want to get.

Tjantings (pronounced jantings), the traditional batik tools, are made of metal (usually brass) cups which hold the wax. They have a thin spout through which the wax flows, pen-like, on to the cloth. Tjantings can be bought in craft shops, and different sizes produce different widths of line. The tjanting is a drawing tool designed to make the delicate, fine lines which are the hall-mark of traditional Javanese batiks, and the tool is still highly desirable for very fine work.

An artist's brush has to be dipped several times into the wax to complete a long line or curve, thus interrupting the continuity and making the line unsteady, but the tjanting carries its own supply of melted wax which continues to flow through the spout as it is drawn across the cloth.

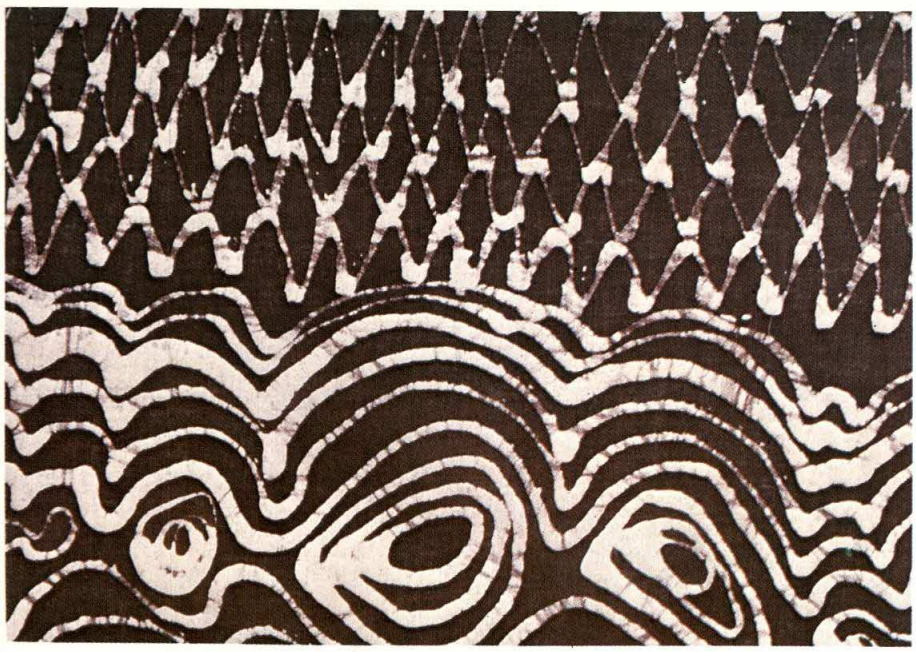
The cup is refilled simply by dipping it into the hot wax.

To draw with a tjanting, fill the wax cup and hold the spout against a jar lid, or similar surface, to keep the wax from running out before you are ready to begin. Then trail the spout across the fabric where a line is desired.

For very fine 'hairlines' draw the spout lightly and rapidly across the cloth. For broader, more definite lines press a little more firmly and move slowly across the surface.

The tjanting may be used successfully to produce swirls and dots as well as for drawing fine lines. Tjantings need practice to use with dexterity because you must not only work rapidly but also learn to start and stop without making drips.

When you want to stop, reverse the direction of the tjanting over the line you have just made, for a second, until you can get a lid beneath the tjanting to stop the flow of wax.



Alasdair Ogilvie

Left: examples of lines and textures made using a tjanting.
Right: traditional way of making batik by drawing designs in wax with a tjanting. Cloth in the background is from Sri Lanka.

Tjaps (pronounced japs) are wax stamping tools and were first developed in Java. In the course of time many batik designs became established patterns, each with its own name, and it became evident that these patterns could be more quickly applied to cloth by printing with wax. It made no sense to draw a repeated pattern over and over again—what was needed was a master image. The tjaps supplied it.

Traditional Javanese tjaps are copper printing blocks (highly decorative objects in themselves) that print a design, or part of it, in the same way as a rubber stamp does, except that the tjap uses wax instead of ink.

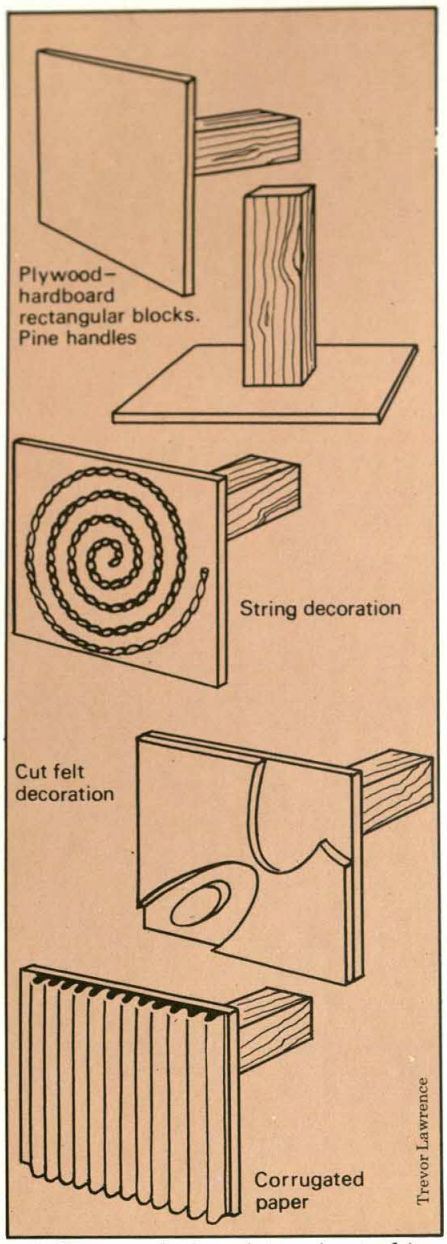
Tjaps not only make traditional batik designs less expensive, but they also open up a range of possibilities for craftsmen. Traditional Javanese tjaps can no longer be exported, but improvised tjaps or stamping tools can be used for creative batik work. With an improvised or home-made tjap you can repeat a motif, or you can investigate unusual and abstract forms, or use a shape to make a small part of a picture.

Improvised tjaps can be made from many familiar items around the house —corks, whisks, biscuit cutters, potato mashers and empty tin cans will all make a 'print' uniquely their own.

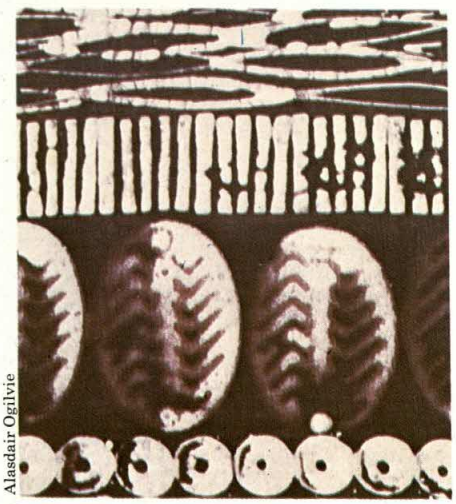
Home-made tjaps can be assembled by mounting any number of items on to a square of plywood or hardboard (fig.1) to make a relief surface.

To use a tjap, dip it in melted wax that has a depth of no more than about 1.2cm (½″). Shake excess back into the pan. Holding folded paper beneath the tjap, move it across to the right place on your cloth, and stamp it on to the cloth.

Always re-wax the tjap between each stamp.



1. *Homemade tjaps (stamping tools).*


Alasdair Ogilvie

Batik designs made from improvised tjaps: folded card, felt snips glued to wood, potato masher and felt on cotton reel.

Dyes

There are basically two kinds of dyes that are suitable for batik: cold water dyes and vat dyes. Both are colour-fast, and because they are strong you should always wear old clothes, an apron or an old shirt, and always use rubber gloves when working with them. In both cases, have your batik prepared before you mix the dyebath because the dyes lose their strength very quickly, and should be used at once. To prevent uneven dyeing, remember to wet the cloth thoroughly before immersing it in the dyebath.

Vat dyes. Although not as well known to craftsmen as cold water dyes, vat dyes are the quickest and most colour-fast of all dyes. You can use them on cotton, silk, linen and viscose rayon. They give a range of brilliant colours, and their exceptional fastness is especially appealing for batik since the labour, and often the artistic merit, is deserving of long life.

Vat dyes have the disadvantage that they require the use of two corrosive chemicals—caustic soda and a reducing agent, such as sodium hydrosulphite, which makes the dye temporarily water soluble. (Some colours require salt.)

The chemicals can be bought with the dye from craft shops which sell vat dyes, and at least one brand, made in America, has the chemicals and dyes already mixed.

Always prepare the dyebath according to the manufacturer's instructions.

Vat dyes develop through exposure to heat and light, and it is impossible to tell the colour until it is on the fabric. Neither the fine powder in the container nor the colour of the dyebath bear any resemblance to the developed colour. Vat colours take almost instantly, however, and you can quickly see the colour on the cloth.

When you are mixing vat dyes to get a special shade, the problem caused by not being able to see the colours can be overcome by dipping a strip of fabric in the bath. The colour will appear at once on the fabric.

Cold water dyes require the addition of washing soda and salt in the dyebath. The simplest of these dyes to use (see Dyeing chapter 1, page 150) takes a long time to develop colour (normally one hour), and a quicker, though more complex, type is generally used for batik. *Fast-acting* cold water dyes develop between 5 and 20 minutes, depending on the intensity of the colour, and for best results should have the additional chemical compound, urea, added to the dyebath. This acts as a dye dissolver and ensures a richer colour.

For lasting colour-fastness on work that will be washed frequently, or which you are anxious to preserve for as long as possible, the special additional fixing processes covered below are advisable.

Dye recipes. There are several recipes for *fast-acting* cold water dyes, but the one given here gives good colour, is easy to prepare, and can be used with any brand of this type of dye. The ingredients are usually all sold together.

☐ Mix 1 teaspoonful of urea with 1½ jars of cold water (jars must hold ½ kilo or 1lb). Do this by adding urea to a whole jar of water, pouring this mixture into a plastic container or sink, then adding a ½ jar of cold water to the mixture.

☐ Now mix ½—4 teaspoonsful of dyestuff with two jars of cold water, and add to mixture in sink. (½ teaspoonful makes a pale shade, while 4 teaspoons-

ful is saturation point and makes the darkest possible shade.)

☐ Mix ½ teaspoonful of soda ash and 1 teaspoonful of sodium bicarbonate with ¼ jar of water and add to the rest. When you immerse wet cloth the colour change is immediate, but you should leave the fabric in the dye for at least 5 minutes to make sure of penetration. For dark shades it may be necessary to leave it for up to 20 minutes.

To dry dyed cloth. When dye has taken (whether you have used hot or cold water), remove the cloth and hang it on a washing line. A plastic line and pegs are best as these can be wiped or washed after use to remove any left-over pigment.

Make sure the cloth does not hang in folds but is spread out, as folds tend to hold the dye and dry darker than the rest.

Records. It is a good idea to keep a record of what you dye so that you will be able to repeat any pleasing results and avoid repeating disasters.

Use a test strip. This means putting a narrow strip of cloth in each dye mixture and, as soon as it is dry, sticking it carefully into a notebook, making notes underneath, stating the number and quantity of dyestuff used.

Removing wax

Removing wax by ironing or boiling off is discussed in Dyeing chapter 7, page 606, but after some experience, and with considerable care, you can remove most of the wax from cloth by scraping it off. The advantage of this method is that the wax can then be retrieved and used again.

To scrape wax off cover a table with newspaper and lay the waxed fabric on top of it. Then, using a household paint scraper or round-ended dessert knife which will be unlikely to pierce the cloth, scrape off as much of the hardened wax as possible.

To remove remaining traces of wax place the cloth over a pad of newspaper, cover the cloth with another sheet of newspaper and iron it. The heat will cause the remaining wax to melt into the paper. Replace wax-coated sheets of paper with fresh ones until no further spots appear.

Jerry Tubby

Copper Javanese tjap (foreground) is typical of ones which printed the tablecloth.

Fixing dye in cloth

Fixing takes place while the fabric is drying, after immersion in the dyebath. A warm, humid atmosphere accelerates the process, but cold-dyed batik lengths designed for use as dress or furnishing fabrics which need continued washing should undergo a further fixing process after the removal of the wax.

Every designer had his preferred methods, so the techniques which may be employed vary considerably. Steam baking, dry baking, and air drying are three which may easily be carried out at home and which need no additional or complicated equipment.

For all but the air drying method, the finished fabric must be protected, wrapping it and lining it with paper towelling or old sheeting in such a way that the surfaces of the fabric do not come into contact with each other. The fabric must be lightly wrapped and folded.

Steam baking. Put the wrapped fabric on a shelf near the centre of the oven. Place baking dish filled with water on the shelf below and bake at mark 7 or 220°C (425°F) for 15-30 minutes.

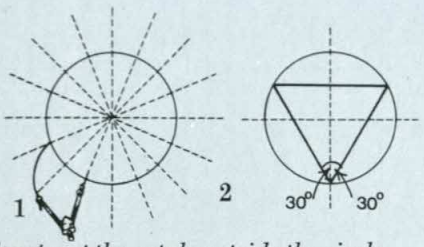
Dry baking means putting the fabric on a shelf near the centre of the oven, as in steam baking above, but not adding the tray of water. Bake at mark 7 or 220°C (425°F) for 5 minutes.

Air drying. Allow the fabric to hang in a humid atmosphere for 48 hours. The bathroom is a good place if it is reasonably warm.

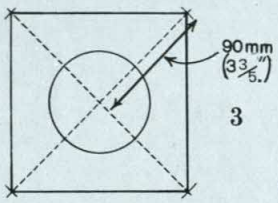
Making a mandala

Design know-how 23

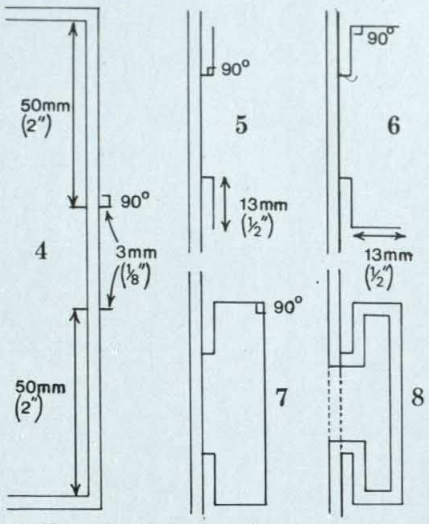
In the last few years mandalas have become very popular although their real significance is often lost. In Sanskrit the work 'mandala' means 'a circle and centre', and mandalas are used in meditation to concentrate and still the mind.



Construct the petals outside the circle and triangles inside.

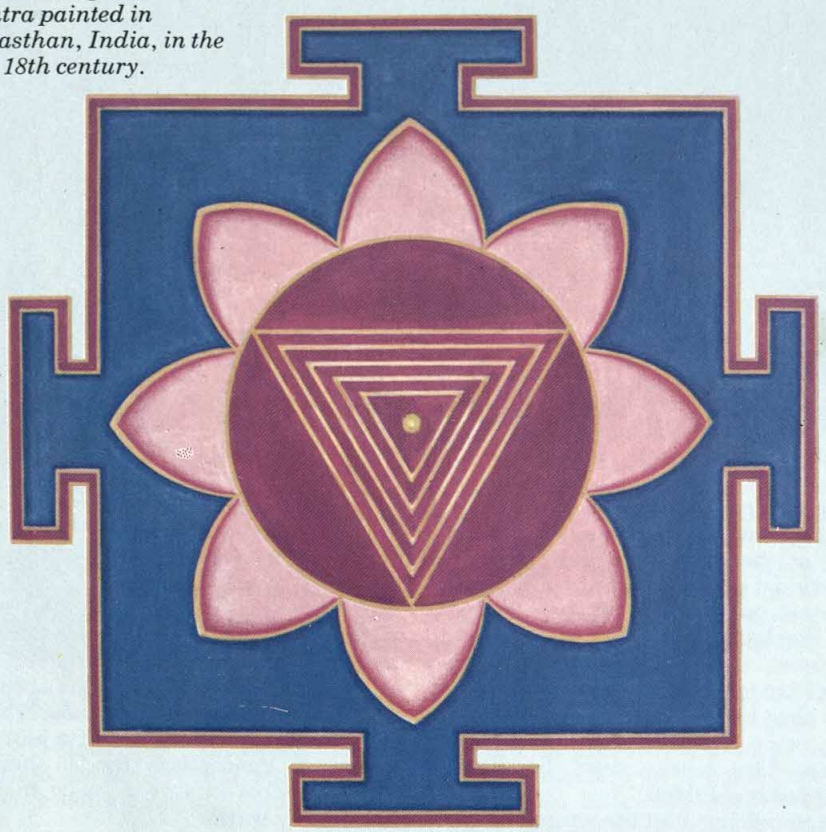


Draw a square around the circle.



Follow the diagrams step by step.

Below: design based on a Kali Yantra painted in Rajasthan, India, in the late 18th century.



Barbara Firth

You will need:

A compass, protractor, ruler, pencil, white paper, and crayons (optional). Mandalas are traditionally painted in gouache and you can buy this kind of paint, if you wish, from an art shop.

A simple mandala can be easily constructed using the basic geometrical shapes of a circle and a square. There are any number of design variations, and the mandala shown here includes triangles. When you have drawn one mandala you will be able to colour it and make it smaller or larger, as long as you keep the measurements in proportion.

☐ Draw a circle with 3.8cm (1½") radius.

☐ Draw a horizontal diameter across the circle. With a protractor measure and draw the vertical diameter. Bisect the angles made by the diameters (see Design know-how chapter 6, page 168,) and draw in. Bisect all the angles again and draw in the lines.

The circle now has sixteen equidistant points around its circumference. Extend the lines by 2.5cm (1").

☐ Draw the eight petals. To do this place the point of the compass where the first diameter to the left of the vertical diameter crosses the circle. Place the compass pencil at the point where the next diameter but one crosses the circle.

☐ Draw in one side of the petal (fig.1). The tip of the petal will be at the point where the pencil crosses the extension of the next diameter but one from the vertical diameter.

☐ Construct the other side of the petal in the same way and continue round the circle, to make eight petals. This process is much easier to do than to describe.

☐ Equilateral triangles are constructed inside the inner circle. At the central point of the bottom petal mark off 30° either side of the vertical.

Draw along the angle to the circumference of the circle. Draw in the third side of the triangle (fig.2).

☐ At a point 5mm (¼") further up the vertical, construct another triangle in the same way.

☐ Repeat until you have five triangles inside each other.

☐ Draw a 13cm (5$\frac{1}{10}$") square around the circle. To do this extend the diagonals and, with the point of the compass in the centre of the circle and radius 9cm (3⅝"), cut the diagonals. Join up the four points on the diagonals to make a square (fig.3).

☐ Draw another square outside the first square and 3mm (⅛") away.

Then follow figs. 4-8 to construct the 'gates' of the mandala.

☐ Rub out all superfluous lines and colour in the design.

Creative ideas 23

Plant trainers

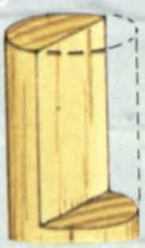
Here are plant trainers with a difference: one is hinged so that the angle of the plant can be varied, and the other guides it gently along a window-sill.

You will need a small saw, bench clamp, hand drill and 3mm (⅛″) drill bit, chisel and a knife.

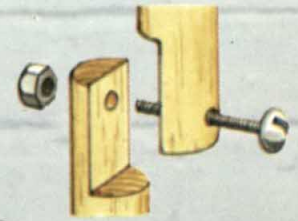
Materials needed are No.8 (3mm) cane, wood glue, small nut and bolt, small amount of paint and 1cm (⅜″) diameter dowel rod 56cm (22″) long for the adjustable trainer and 91.5cm (36″) long for the window-sill trainer.

Adjustable trainer

Saw dowel in half. Measure 1.25cm (½″) from one end of each piece, and then, to divide the thickness in half, saw half the marked sections away, leaving half thicknesses at the ends (fig.1).

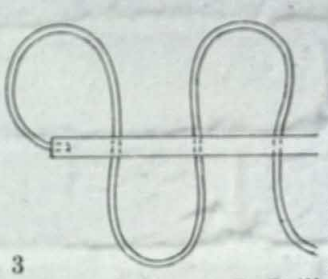


1



2

Drill holes big enough for the small bolt in the centre of each cut section. Bolt piece together (fig.2).



Paul Williams

3

Sharpen bottom end. Drill two holes about 2.5cm (1″) apart from the top and repeat every 15.5cm (6″). Make generous loops by threading the cane through the holes. Secure at each end with glue. Paint pointed end to seal against damp.

Window-sill trainer

Saw dowel into two lengths measuring 66cm (26″) and 25.5cm (10″).

Mark 15.5cm (6″) from one end of the longer piece of dowel and make another mark 1cm (⅜″) from the first. Saw down the two marks through half the thickness of the dowel and chisel the centre section out.

Cut one end of the shorter piece of dowel in half horizontally as described for the adjustable trainer (fig.1). Use wood glue to join the two sections, clamping in position until dry.

In the long piece of dowel drill holes for the wicker as described before. Sharpen and paint the bottom end of shorter piece.

Left: the adjustable trainer standing upright. Below: the window-sill trainer. Designed by Roger Polley.

Martin Chaffer

Paper bag masks

Children love to escape into the world of make-believe and pretend to be someone or something else for a few moments, so any form of dressing up is a popular pastime with both boys and girls.

The imaginative masks featured here are all made from large brown paper bags (the kind that have side gussets), with card, paper or cotton wool additions. If suitable brown paper bags are not readily available from the supermarket, paper carriers or white paper bags could be used.

Take care with younger children, however; they often become bewildered and frightened at the sudden and, to them, terrifying change in a once-familiar face.

Never on any account allow a child to use a plastic bag for any form of play. A plastic bag placed even lightly over the head can all too easily lead to suffocation.

Paper bag masks

You will need:

Large paper bags with gussets.

Coloured thin card or pre-gummed paper. (Thin card has more 'body' than paper and should be your first choice. It is definitely better for cats' ears and sun faces which should stand proud of the paper bags.)

Thick nibbed, black felt-tipped pen.

Various decorations for individual masks as shown in photographs.

Pair of compasses, scissors.

Chalk or a pencil.

PVA adhesive.

For all masks. When making any of these masks, first pull the paper bag over the head until it sits comfortably on the child's shoulders.

Press the bag gently against the child's face and mark lightly in chalk or soft pencil where eyes and nose are to go. Remove the bag from the head and cut out a small pear-shaped flap for the nose and two small slits for the eyes. These can be as small as about 4mm ($\frac{3}{16}$") wide and 1cm ($\frac{3}{8}$") long and if they are correctly positioned, a child should be able to see quite comfortably out of them. Also cut out mouth in position indicated in photograph.

Now each mask can be decorated differently.

Soldier

☐ Stick black paper over the base and bottom quarter of the bag, front and back, and over the side gussets.

☐ Out of yellow card, cut a pear-shaped piece to go over the nose flap, and two discs for buttons.

☐ Cut two strips of yellow paper about 30cm x 15cm (12"x6") wide, fringe and then bunch them to make epaulettes. Cut a semicircular piece of yellow paper about 2.5cm (1") wide for the chin strap.

☐ Cut a moustache (fig.1) from red card, two black circles for eyes and one black circle for a mouth. Cut a strip of green paper to go at the top edge of the bag. Cut small slits in the centre of the black eye circles.

☐ Stick all the pieces in place, centring eye slits over eye slits in the bag, nose flap over nose flap, and epaulettes at either sides of the green strip.

☐ Draw 'rope' outline on chin-strap with black felt-tipped pen.

Grandpa

☐ Tease out a flat piece of cotton wool to fit the lower part of the mask from nose to shoulders, plus an extra little strip for a moustache.

☐ From black paper, cut out spectacles, a small circle to surround mouth hole and two small circles with slits in them for eyes.

☐ Cut two large cardboard ear pieces with tabs for attaching to bag (fig.1).

☐ Fringe a strip of red paper and bunch it up to form a top-knot.

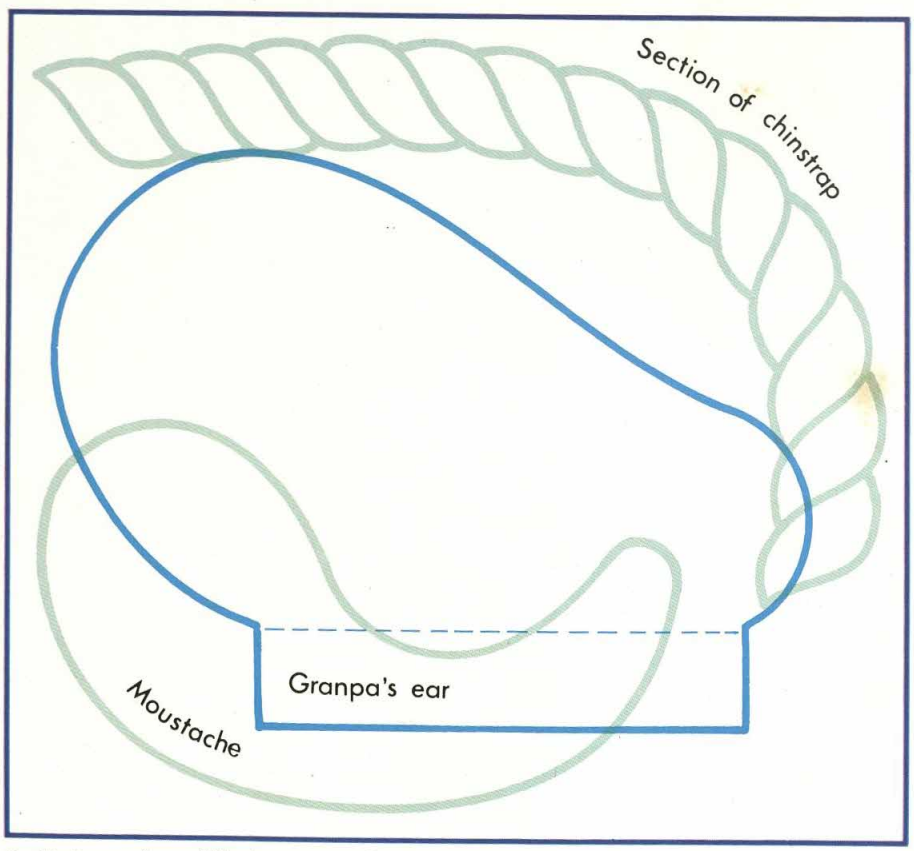
☐ Stick moustache and beard in place, shaping them if necessary. Stick on mouth, spectacles and top-knot as in picture. Centre eye slits over eye slits on bag.

☐ Emphasize ears with felt pen. Score along dotted scoring line and stick ears in place. Add eyebrows in black felt-tipped pen.

Clock

☐ Flatten out bag. With the point of a pair of compasses in the nose flap, draw a circle that almost touches the sides of the bag. Emphasize this circle with black felt-tipped pen and add numbers and clock feet.

☐ Draw in hands with red pen, add blue card nose, and draw pupils with black felt-tipped pen round eye slits in the bag.



Trevor Lawrence

1. *Patterns for soldier's moustache and chin-strap, and grandpa's ears.*

Right: carrier bags make marvellous masks—cheap and fun fancy dress.


Camera Press

Camera Press

Cockerel

☐ Fringe the end of an extra-deep bag or stick fringed beige paper on to an ordinary length bag.

☐ Cut wattles, eyes and nose from coloured card or paper as in the picture.

☐ Stick all the cut-out pieces in place centring eye slits over eye slits on bag.

☐ Emphasize outlines with black felt-tipped pen.

Cat

☐ Cut out tabby markings, ears, eyes, nose and mouth as in the picture, using coloured card and paper.

☐ Stick in place, centring eye slits over eye slits on bag.

☐ Emphasize shapes by outlining with black felt-tipped pen.

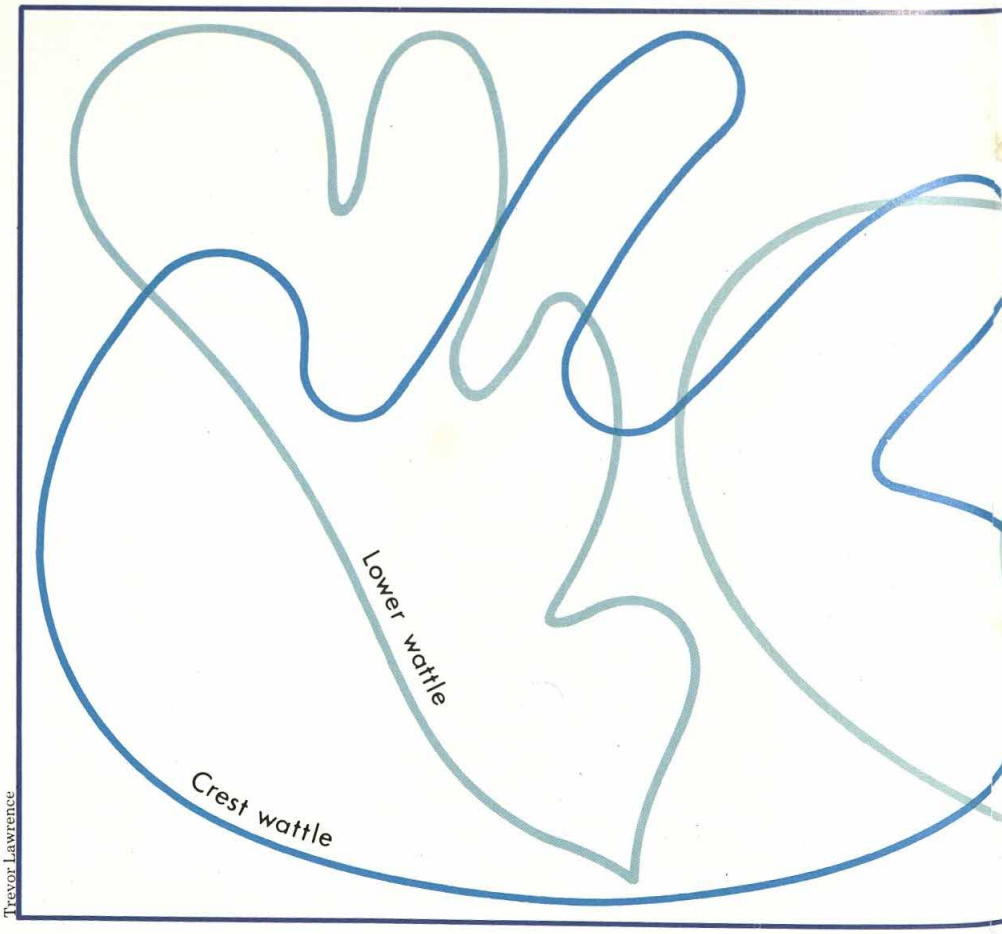
☐ Add tiny whisker marks in black felt-tipped pen and stick on whiskers made from very thin strips of black card.

Duckling

☐ Cut card or paper for bill and eyes. Cut slits for real eyes and mouth and a flap for the nose.

☐ Stick in place and outline the mouth features with black felt-tipped pen. Draw round eye slits to give impression of black pupils. Use felt-tipped pen for eyebrows and draw in two nostril dots.

☐ Cut a strip of orange paper to fit the top of the bag, and fringe it. Stick in place.



Trevor Lawrence

Baby face

☐ Take a cake frill or cut the centre from a large doily and stick it round the face area.

☐ From red card cut two round cheeks and a mouth. Leave a hole for the real mouth to show.

☐ Cut eyes and spiky lashes from black paper and stick in place or draw with felt-tipped pen.

☐ Curl some strips of coloured paper over scissors (see Paper chapter 5, page 115) and stick in the centre of the forehead.

Flower

☐ Cut a green card circle about the size of a dinner plate for the centre of the flower and a yellow circle with scalloped petal edges to go round it.

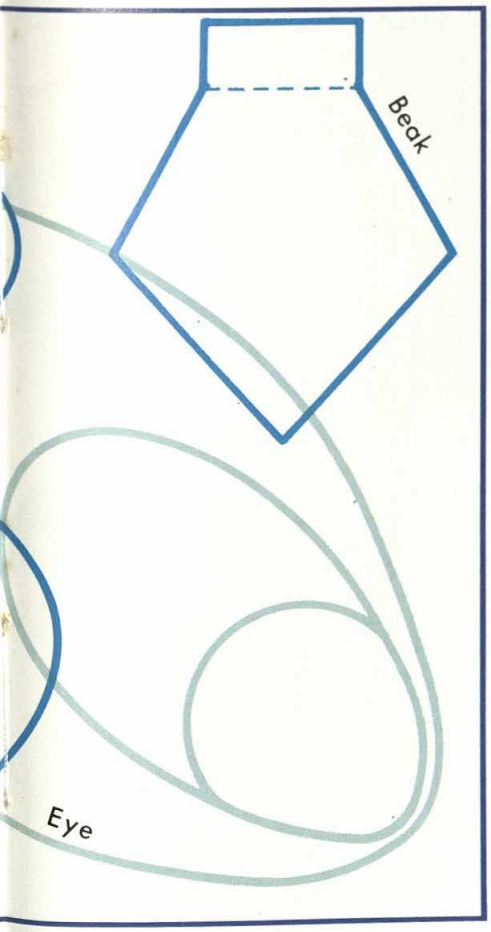
☐ Make slitted flower eyes in black with red petals centred over the real eye slits and a red petal mouth.

☐ Add two flower cheeks and two flower decorations.

Left: imagination, a carrier bag and scraps of card and paper are all you need to make a delightful animal mask.

Right: bold use of coloured card and paper doilies make these flower and baby face masks rather special.

Below: trace patterns for wattles, eyes and beak for the cockerel mask.



Camera Press

Coating glass with resin

Plastics 9

Polyester resin is such a versatile material that, as well as being cast, moulded, embedded, sanded and cut, it can also be used to coat a surface. In this chapter a light, translucent tabletop is made using plate glass for the base; this is covered with layers of resin and placed into a table frame.
The technique used is so flexible that it can be applied to any flat glass or acrylic sheet (such as perspex). You could also try this method for a window or screen.

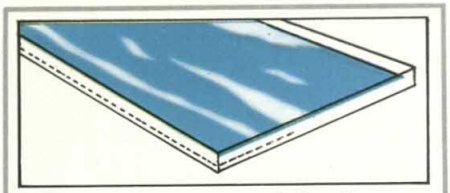
To make the tabletop

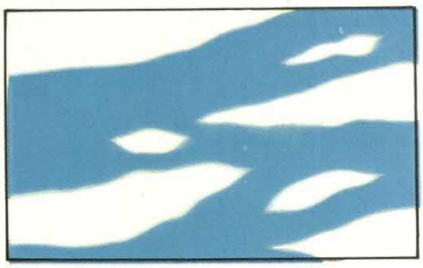
You will need:
One sheet of plate glass 46cm x 92cm (1½'x3'). Plate glass is thicker than ordinary window glass.
Metal table frame to take panel 46cm x 92cm (1½'x3').
1kg (2lb) clear embedding resin.
Catalyst, which usually comes in 56gm (2oz) bottles. You will need 56gm (2oz) for the table.
Two or three transparent resin pigments. The amount you need will depend on the depth of colour you want, but 28gm (1oz) for each colour is sufficient. You may find that related colours such as green and blue look more appealing than contrasting shades. These pigments are available in paste, powder or liquid forms.
About 3m (3yd) of 2.5cm (1") wide masking tape.
Three large tins for mixing the resin.
Disposable calibrated (measuring) paper cups for measuring liquid.
Flat-edged wooden spoon or smooth piece of wood for stirring liquids (not to be used for cooking afterwards).
Small sharp knife.
Methylated spirits.
A cleaner such as polyester resin solvent or concentrated resin detergent. (Do not let this come into contact with your skin. If it does, wash off immediately.)
Newspaper; barrier cream for hands.
Medium and fine wet and dry paper.
Chrome or resin polish.

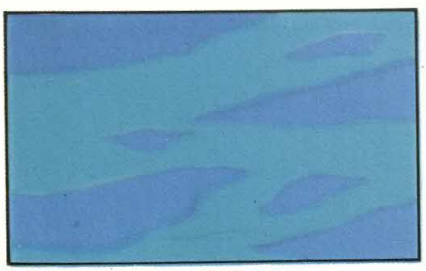
☐ Cover an even, flat surface with newspaper and set out all the tools and materials. When the resin starts to cure you will have to work quickly so make sure you have everything ready before you begin.
The resin gives off toxic fumes so the room must be kept well ventilated.
Try to maintain a warm temperature, 20°C (67°F). Lower temperatures will delay hardening.
If your skin is sensitive cover your hands with barrier cream.

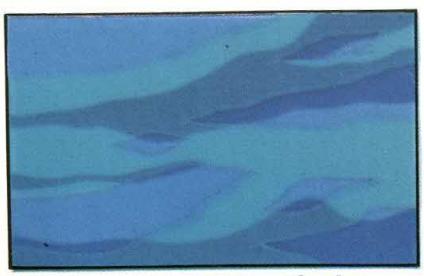
☐ Wipe over the glass with a cloth dipped in methylated spirits to remove all dirt and grease.

☐ Tape the masking tape round the perimeter of the glass and make sure that it sticks under the glass to give a tight seal (fig.1). The tape prevents the resin from running off the glass.


1. *Be sure to tape around the glass.*


2. *Cut shapes from the resin.*


3. *Add a second layer of resin.*


4. *Another colour darkens the design.*

Trevor Lawrence

First colour. With a calibrated cup measure 225gm (8oz) resin into a tin. Add one of the pigments a little at a time. Stir gently but well. If you are mixing up several shades of one colour mix the lightest shade first. In any case start with a light colour just to get the feel of how much colour is needed.

☐ Add 200 drops of catalyst. The catalyst bottle is marked with quantity guidelines to help you.
At average room temperatures, 20°C (67°F), the pot life of catalysed resin is about 26 minutes. The addition of colour may change the pot life by a few minutes.

☐ Pour the resin on to the glass, streaking it up and down its length. The resin will spread out and find its own level.

☐ Wait for the resin to become a jelly (about 4-5 hours). Then, using the knife, cut out any shapes you wish from the resin and lift from the glass (fig.2). Start by cutting out flowing shapes. You will find that the resin peels off the glass easily at this stage.

Second colour. Mix up another 225gm (8oz) of resin with another colour and catalyse in the same way as before.

☐ Pour on to the glass in a second layer. Once the first layer has set the two resins will not mix (fig.3).

☐ When the second layer has gelled (about 4-5 hours) you can again cut and peel away portions of the resin. You may like to leave one or two 'peepholes' of plain glass uncovered by resin.

Third colour. Mix up third 225gm (8oz) resin with another colour and catalyst. Pour and cut in the same way as before (fig.4).
The last 225gm (8oz) of resin can be made by mixing two of the pigments together. The table shown has only three layers of resin but you can add a fourth if you wish. Be sparing, however, with darker colours until you have some experience of working with resin. The darker colours can easily swamp the lighter shades.

Curing. Leave the tabletop to completely cure and harden overnight or longer if possible. Make sure it is not tacky to the touch.
When you are sure that it is hard, peel off the tape and rub over the resin with dampened medium and fine wet and dry paper. Follow by buffing with chrome or resin polish.

Table frame. Place the tabletop glass side uppermost in a metal-framed coffee table unit. These units can be bought as a simple metal frame into which the top can easily be slotted.

Glass and resin top, fitted to a table base. Designed by Anthony Wilson.

Alasdair Ogilvie

Completing the sampler

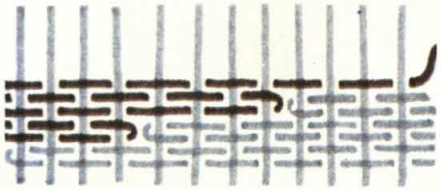
Tapestry is a particular form of weaving in which the weft thread completely covers the warp. Although it is a pictorial technique, the warp and weft threads form a grid of straight lines, so every shape, even a curve, is worked out in terms of a series of small, straight lines. The basic tapestry shapes are incorporated in the sampler wall-hanging. Once you have mastered these techniques you will be able to create original designs of your own.

Weaving chapters 6, 7 and 8, pages 572, 600 and 632, show how to make the frame loom and how to weave the first half of the tapestry. The rest of the sampler, including the circular shape, is described in this chapter to complete the basic tapestry techniques.

Section Six

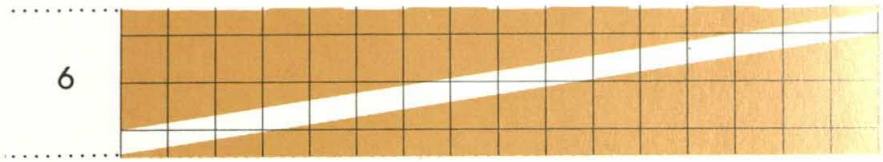
This section of diagonals is woven using the technique shown in Section Three, (Weaving chapter 8, page 632). However, here the rate of increase is by four warp ends per pick (fig.1). This creates a gradual slope.

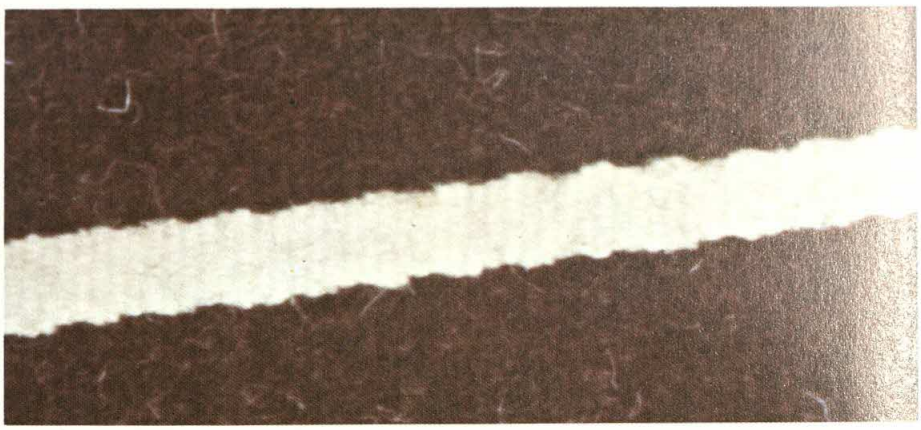
Do not forget that the white diagonal stripe is increased on one side while being decreased on the other.



Victoria Drew

1. *Creating a gradual incline.*





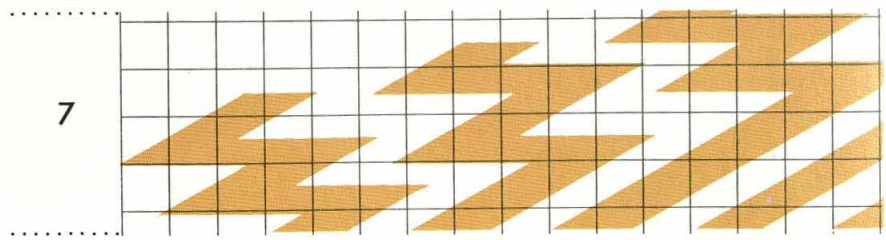
Johnny Ryan

The diagonal stripe is actually a series of small steps.

Section Seven

This area has been included for practice in weaving the shapes already explained in Weaving chapter 8. The forms are more complex, and several bobbins of weft must be worked together.

In tapestry, small areas can be worked independently. It is not always necessary to build up the whole of the warp at any one time. However, you must always have woven the area directly underneath the area you are working.



Each square is 2.5cm sq (1in sq) in the graph sections.

Johnny Ryan

Section Eight

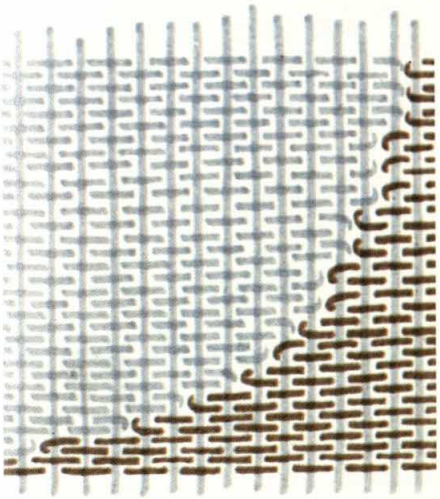
This section is complicated as it combines several different shapes.

Before you start to weave this area, read all the instructions. For clarity, the instructions for the circle have been dealt with in isolation. When you actually come to weave, you will have to combine the circle with the small black lines radiating from it.

Weaving a circle. Before beginning to weave a circular shape it is advisable to mark out the shape on the warp with a broad felt-tipped pen. The curve of the circle is woven using a combination of diagonal and vertical weft joining (see Weaving chapter 8).

Start by weaving the white background. Two separate bobbins of white will be required, one for working the left side and the other for the right.

☐ From the centre of the bottom curve, start weaving the background on one side, gradually increasing the slope by the method explained for weaving diagonals (fig.2).



2. *Forming the curve of the circle.*

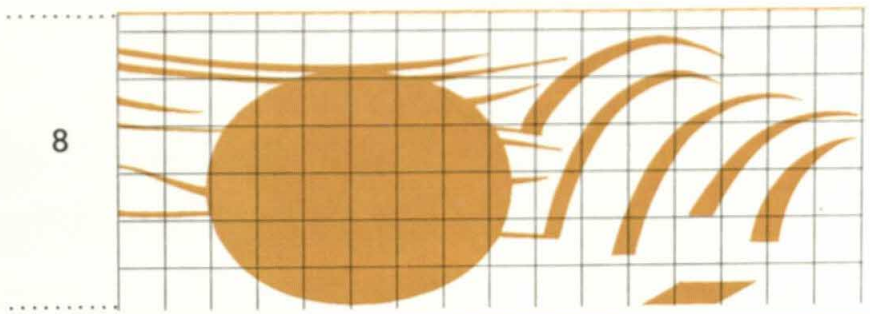
There will not be a regular increase as there is with triangles and you will have to follow the outline of the circle on the warp. Remember to weave slightly higher than the outline to make up for the loss when beating down.

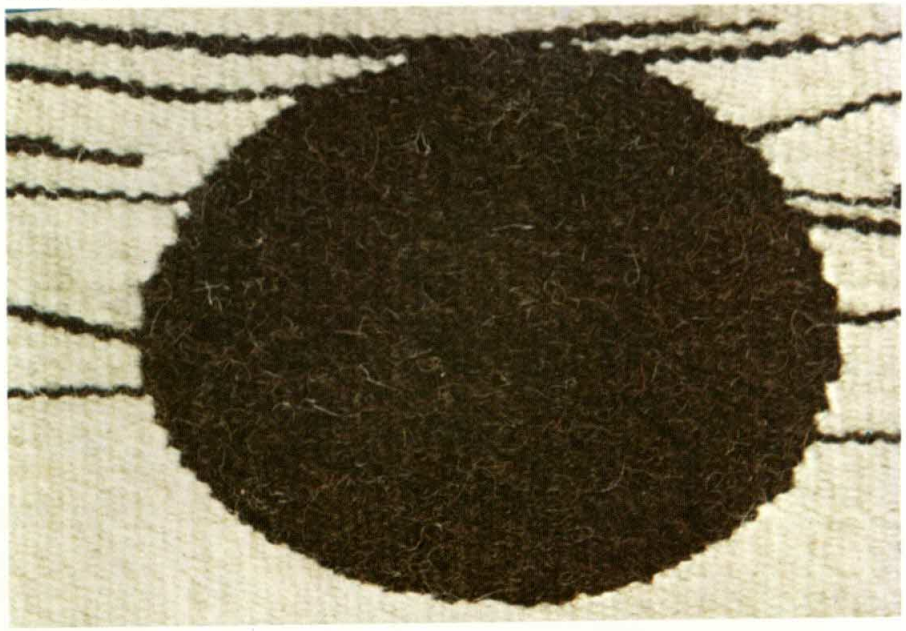
☐ Continue the increasing until the weft is passing three times around a single warp end.

☐ Weave the background on the other side in the same manner.

☐ The lower portion of the black circle can now be woven up to the level of the background.

☐ From this point in weaving the circle, vertical weft joining should be used for weaving the steepest part of the circle. You can choose any of the methods described in Weaving chapter 8, Section Two. Both background wefts and circle weft should be built up together.





Dick Miller

Watch your cartoon for the position of the lines coming out from the circle.

☐ As the steepness of the slope declines (from the point where the black weft is passing three times around a single warp end), continue weaving the circle by modifying the steepness of the diagonal weave until the circle is complete.

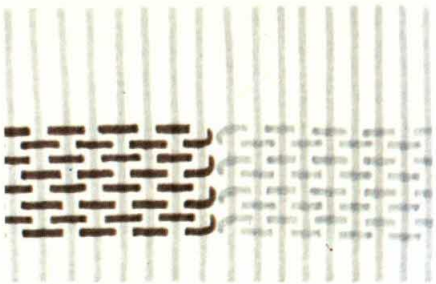
Remember, these instructions are for weaving a circle with a plain background. As the sampler has black stripes coming out of it, these will have to be woven in as you weave the circle.

Horizontal thin stripes. These come out from the circle and are woven by continuing the black weft from the circle into the background for two, and occasionally three, picks.

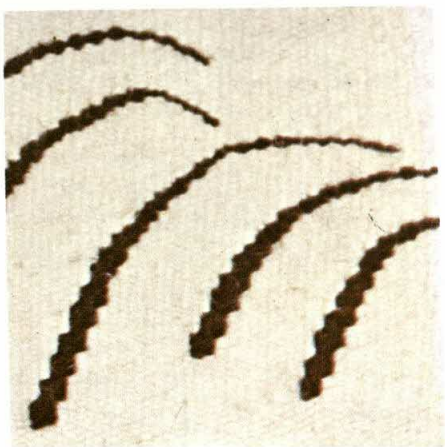
☐ Watching out for the stripes, weave the circle and the background, following the instructions for weaving a circle given above.

The black curved lines on the right-hand side are formed by using the circle techniques. The steep part is woven with the weft going four times around and one warp end without any interlocking. This type of join forms small slits (fig.3).

In all cases where verticals are used they can be woven in this manner with the resulting slits becoming a design feature, as in Kelim rugs. Alternatively, they can be sewn up afterwards at the back.



3. *Slits can be a design feature.*

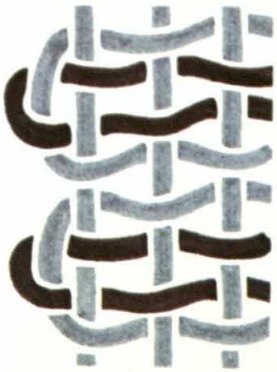


Johnny Ryan

Gradating steps form curved lines.

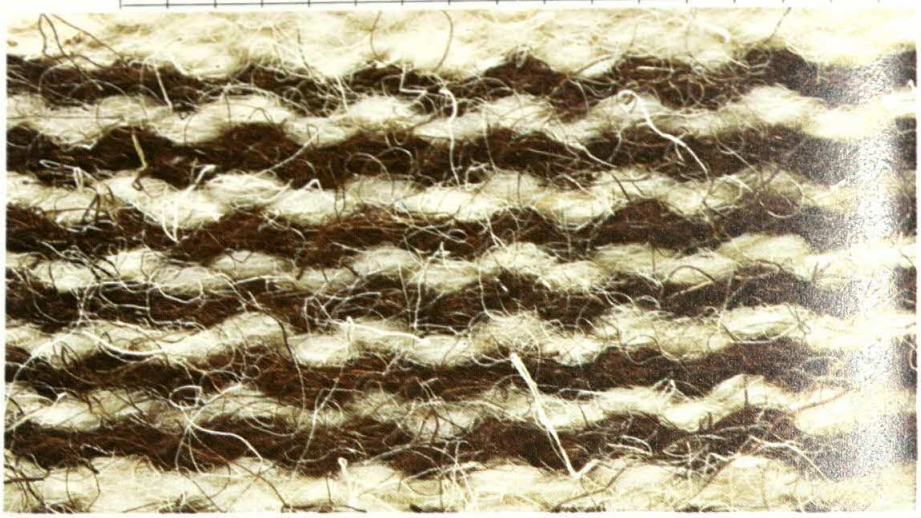
Section Nine

The thin, slightly wavy lines are created by weaving two picks of black, followed by two picks of white and so on. To avoid unsightly loops at the selvedges, cover the weft not being used by the working weft (fig.4).



Victoria Drew

4. *How to keep a neat selvedge.*



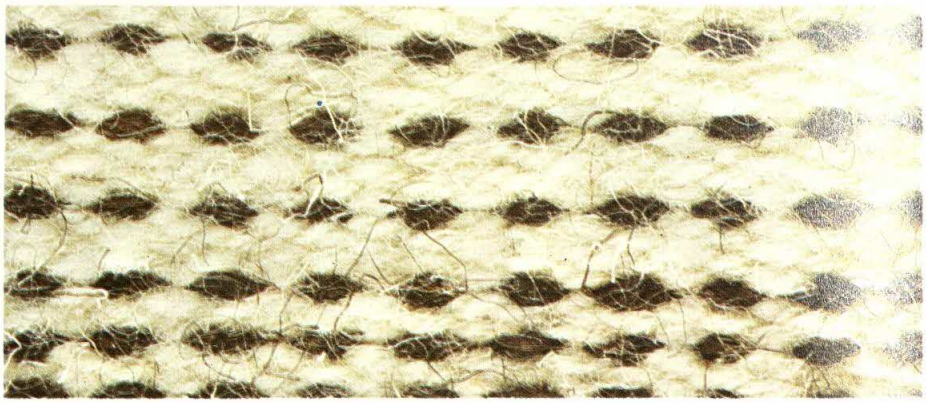
Rob Matheson

Detail of the horizontal stripes formed by weaving two picks of each colour.

Section Ten

☐ Weave three picks of white, one pick of black, followed by three white, one black and so on.
☐ Continue this for about 1.25cm (½″).
☐ Increase the number of white weft picks to five but still only weave one pick of black.
☐ Extend the blocks of white to seven and then nine picks, at regular intervals, to give a progressive shading effect from dark to light.
☐ Once again carry the black weft up the selvedge, covering it with the white as in the previous section (fig.4), until the black is required again.

The shading effect is created by increasing the number of white picks.

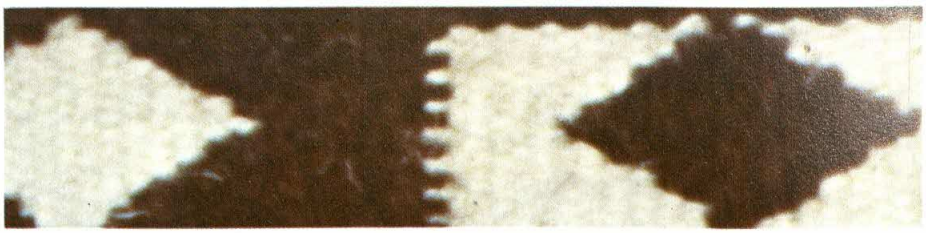


Rob Matheson

Section Eleven

At this point, the width of the warp is again divided into three equal parts. The diamond shapes, black on white, white on black, are woven using the normal diagonal technique, and the vertical joins by method 3, Section Two, Weaving chapter 8.

Weave each diamond with its background so that you can beat down.

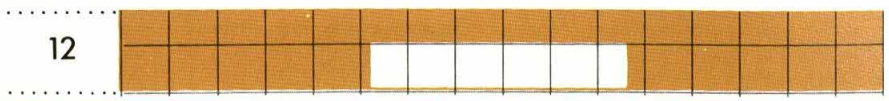


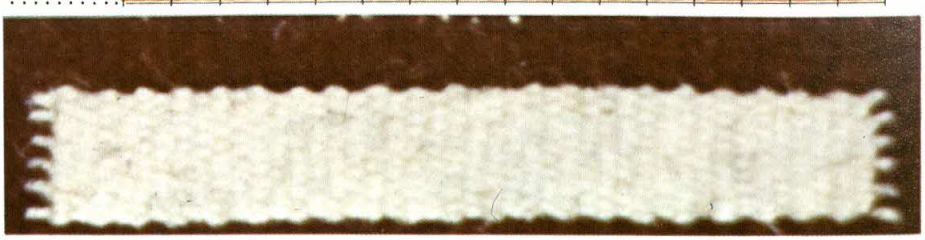
Johnny Ryan

Section Twelve

The last part of the sampler is a repeat of the first two sections. This is a 2.5cm (1″) area divided into three blocks, two black on the outsides and white in the centre. This is followed by 2cm (¾″) of plain black. See Weaving chapters 7 and 8 for detailed instructions.

In the final stage the tightening warp threads will need more care in covering.





Johnny Ryan

Taking tapestry off loom

Cut the warp from the frame leaving a sufficient length of warp, about 7.5cm (3″), to allow for tying knots. At the bottom of a tapestry this normally means cutting the warp as near to the nails as possible.

There are several ways in which the edge can be finished off. If the edge is to be turned under and sewn, then the ends of the warp can be cut much closer.

The simplest method is to tie a series of overhand knots (fig.5). Make sure you get the knot as close to the weaving as possible.

Because tapestry is such a firm, compact weave, it is not absolutely necessary to darn in the loose weft ends. If you leave them loose trim them down to a tidy length of about 5cm (2″).

Brush lightly to get rid of any loose fibres which may still be clinging to the surface of the tapestry. As it is pure wool and cotton, you can wash your tapestry gently when it gets dirty.

5. *Finishing off the tapestry with a series of overhand knots.*

Rob Matheson

Leave the fringe long if you wish it to be a design feature.

The final tapestry should have straight, even edges. If they are pulled in, careful stretching with an iron may help.

Jerry Tubby

Exploring batik techniques

In nature there are no perfectly straight lines and no two things are ever exactly alike. Instead, there is an infinite variety of pattern and shape and it is just this quality that makes batik appealing to the craftsman.
Batik cannot produce the perfect regularity of design possible in assembly line fabrics and it is a mistake to try and use it to this end. It should be used to do what the machine cannot—

Alasdair Ogilvie

ie take full advantage of the 'human touch' and consequently more truly imitate nature.

There is no need to worry about being unable to draw, this is not a draughtsman's field, so put perfection of form aside and look round you for an idea you can develop.

Designing for batik

Whether you are building a picture or making a pattern, the basic design technique does not greatly differ. In both you want to use all the space available to arrange your design with an overall effect of balance and unity. You can do this by using basic design shapes, the most beautiful of which are often the simplest; circles, squares, and their variations—diamonds, checks, zigzags, stripes and spirals. The spiral is especially well-suited to batik. Embroidery and tapestry designs are also good sources of inspiration.

Remember you are working with a liquid and therefore the more fluid shapes are most applicable.

Crackling is the finely veined or 'marbled' effect which characterizes most batik work. Originally it was considered a sign of inferior production, but it has come to be almost synonymous with batik—another case of the positive use of mishaps.

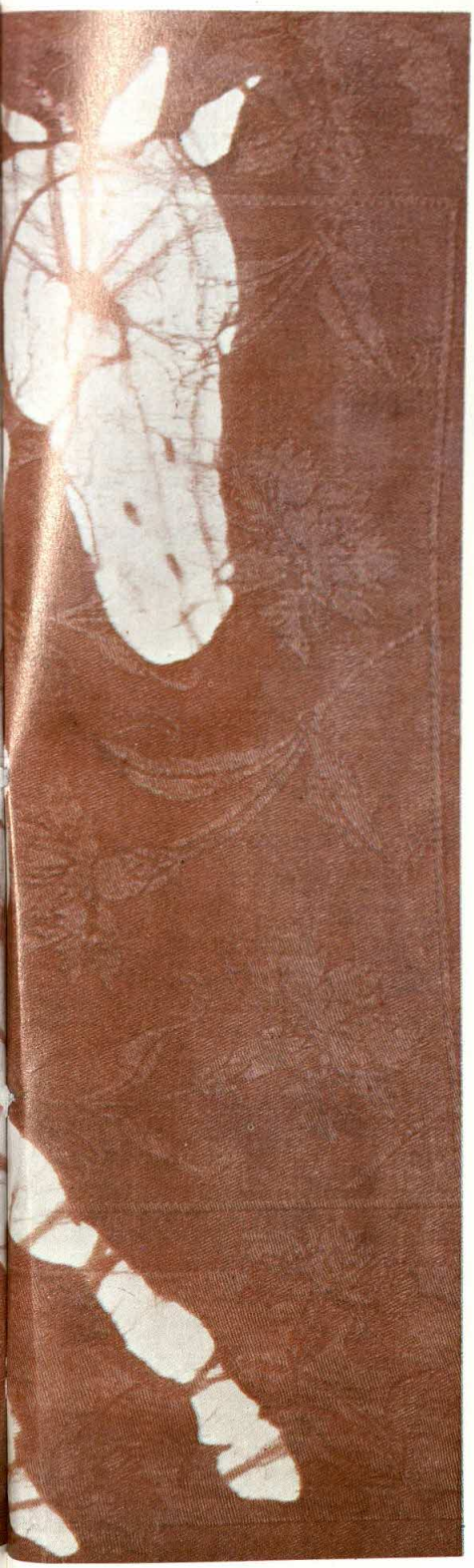
For a crisp, delicate crackle the wax in the fabric must be very cold. It must be the right mixture of beeswax and paraffin wax (Dyeing chapter 7, page 606). If the atmosphere is warm, the wax becomes pliable and crackling is unlikely to be successful.

In warm weather the cloth may be put in the refrigerator for 10-15 minutes, or ice cubes may be added to the dyebath. In cold weather it is sufficient to hang the wax fabric out of doors. When the wax has become hard and cold, crease or crush the waxed areas. The direction of the cracks and the amount of crackling can, with practice, be controlled to suit the designer's intentions.

Variety and inventiveness should show in every detail. Do not attempt to imitate the regularity of other printing techniques. Instead work freely to exploit the possibilities of a shape. The motifs in fig.1 show how different forms can be developed and explored.

Working from designs. When you have developed your idea you can either make a small sketch to use for reference and enlarge and transfer it on to the cloth (see Design know-how chapter 4, page 112), or you can work by visualizing the finished work directly on the cloth.

As well as the design you must also decide which method of batik best lends itself to your chosen design. This will to some extent depend on your experience but if there are fine lines, then the traditional tjanting may be useful, while one or more tjaps might be employed to accentuate or build up a design (Dyeing chapter 8, page 640). Of the other methods that can be employed the most important is brush batik.



Left: crackling is the fine, veined effect characteristic of most batik and is made by crushing the cooled wax. In the horse design, left, the muscles are delineated by crackling. By Angela Bragg.

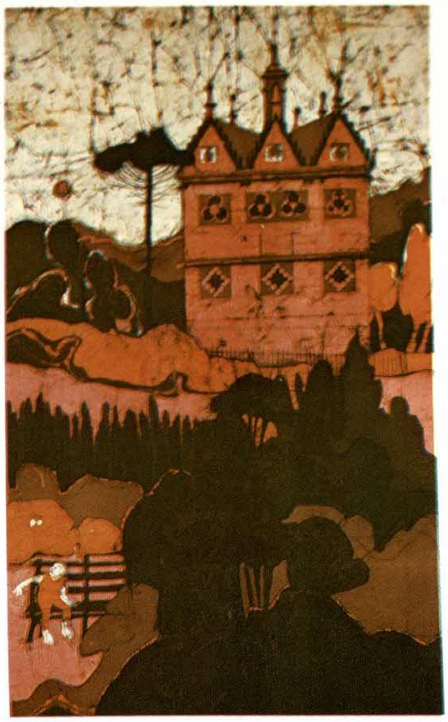
Right: batik lends itself to picture making. By Barbara Lang.

Victoria Drew

1. *Designs can be developed by exploring basic shapes like the flowers shown.*

Brush batik

Increasingly in modern batik work craftsmen prefer to use a paint brush instead of working with a tjanting. Although it takes practice to use a brush effectively for fine work, it is easier to control, although it is often slower.



F. G. Crowhurst

For brush batik you will need a set of flat natural bristle artist's brushes in several widths for filling in motifs and larger areas such as background, and a round, pointed oriental paintbrush for fine lines.

Some craftsmen like a flat brush cut at an angle for making lines. These can be bought or you can cut your own by dipping the brush in wax and allowing it to harden. Cut angle with scissors.

Care of brushes. Wax tends to make brushes form 'whiskers' and these need constant trimming to keep the contour of the brush. Always dip your brushes in boiling water when you have finished. This will remove most of the wax and help preserve the life of your brushes. Batik brushes should only be used for batiking. Finally, never leave brushes standing in wax as it will ruin their shape.

Wax temperature is very important in brush batik and the ideal temperature is about 120°C (253°F). Wax ignites at 170°C (338°F). If you are applying wax at the right temperature —a candlemaker's thermometer is a useful item—and at the right speed there will be no sign of brush strokes. However, it is always advisable to follow the general contours of the design with your brush.

Using a brush. You will find that it is only possible to apply wax over a small area at a time, especially in the beginning, and you may be able to carry only enough wax on your brush to cover one small petal; but do not be impatient, it speeds up as you go on and many batik patterns are made up of dots and discontinued lines, using this drawback to positive effect.

To use a brush, place it in the melted wax for a few seconds to allow it to become hot. Squeeze out surplus wax by pressing lightly against the side of the pan, then transfer the brush to your fabric, holding a piece of folded newspaper under the wax-loaded end to catch accidental drips.

Apply to fabric by pressing gently but firmly down on to the surface and pulling the brush along. As the wax is worked into the fabric it develops a translucent appearance.

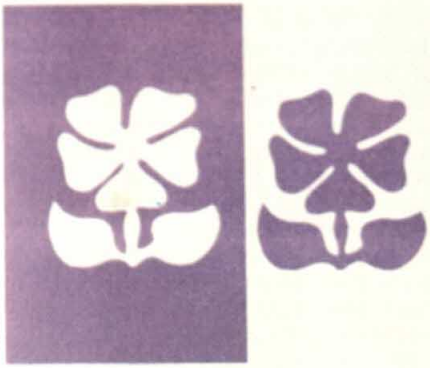
Check constantly that the wax is penetrating through the cloth since both sides must be sealed to resist the dye. (If this is not achieved you may have to re-wax on the other side.)

It is a worthwhile experiment to try making marks and lines with two or three different sized brushes on an old sheet to get the feel of what each one can do best. Since wax hardens quickly you should always choose the size that will give you the quickest coverage but also the most control.

To work successfully with a brush you must get into the habit of dipping it in wax very often and developing a rhythm until the motion becomes automatic. The wall hanging on the left is a good example of brush batik. Made up of a tree, flowers and a human figure, it draws its inspiration from a tarot card called Good Luck and Good Management—a remarkably fitting description of the necessary elements for working in batik.

Jerry Tubby

Brush batik picture inspired by a tarot card is made with four colours. The cloth was yellow to begin with. It was dyed blue after tree trunk and other yellow areas were waxed. After more waxing, cloth was dyed olive then some wax was scraped off and red dye painted on. Finally all the wax was removed. By Angela Bragg.



Victoria Drew

2. *A reverse stencil is made by using the part (on right) normally discarded.*

Reverse stencil batik

The great advantage of this method is that your otherwise unrepeatable pattern or outline can be to some degree reproduced. At least you are assured of getting the same size in any motif that is repeated.

A reverse stencil is the part of a stencil that is normally cut away (fig.2). In reverse stencilling this is the part you use. (For more about stencils see Stencils chapter 2, page 240 and Paper chapter 8, page 226.)

Reverse stencils can be made from contact paper and the adhesive backing stuck on to the cloth. You then apply the wax round the paper outline. The stencil protects part of the surface from the wax just as wax protects the surface it covers from the dye.

Take care not to use too much wax or at too high a temperature, otherwise it may seep under the contact paper.

Before dyeing, remove the reverse stencil. You can repeat the process after dyeing, shifting the stencil slightly to enhance the design.

Over-batik

Over-batik not only produces very decorative effects, it can also mask mistakes or re-work designs that do not prove satisfactory. The method involves batiking a new design over an old one.

It also solves certain problems of colour. For example, when you want to use a colour outside your chosen range (normally you would work from light to dark), one that would not blend or would upset the progression of shades, you can over-batik.

To cover up mistakes, try over-batiking by brushing on wax in a series of whirls or spirals to link up and make a new, perhaps more decisive, pattern. Then dye it. Where you have over-batiked, your original pattern will be preserved, but within the context of the new design.

Steve Bicknell

Batik designs can decorate garments as well as make pictures. The dress on the right is from Indonesia.

Working with veneers

Wood — carpentry 10

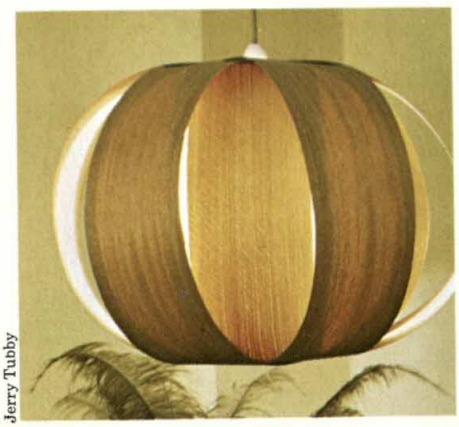
Certain timbers can be very expensive so, to achieve the same appearance, veneers are used as a surface finish on a cheaper type of timber as well as on man-made boards to make them resemble solid wood.

Veneers are also widely used to repair antique furniture and because of the large quantities needed antique dealers are in a position to have veneers cut specially for them.

Veneers are like wood shavings but the latter are usually a by-product of cutting and planing a piece of wood to a required size. A veneer is cut with a special saw so that a log can be used almost entirely to make veneer which is specially cut to make the most of the natural characteristics of the timber, such as the grain.

The standard thickness of veneer is 0.7mm ($\frac{1}{40}$″) but it is possible to get 1.6mm ($\frac{1}{16}$″) and 3.2mm ($\frac{1}{8}$″) veneers from specialist veneer shops.

Timber merchants and do-it-yourself shops stock veneer but usually it is sold by the sheet which can be expensive and inconvenient. Craft shops stock a limited range of veneer for marquetry. It is available in teak, oak, mahogany, birch and so on. You should, however, be able to find a veneer suitable for your purposes. If you find it difficult to obtain a particular veneer try an antique dealer who might let you have some scrap pieces. A sheet of veneer splits very easily so handle it carefully. Strips of veneer or wood shavings are much easier to handle and you might prefer to practise working with them before using sheet veneer.



Jerry Tubby

Lampshade with a golden glow, made from strips of oak and mahogany veneer. Designed by Alf Martensson.

The lampshade

In decorating a room, generally more thought is given to the furniture, carpets and wall coverings than to the lights. Yet the lighting of a room is really the most important part of any decoration because it creates the mood or feeling of the room. Bright spotlights, for example, may make a room feel large and cold, whereas soft, indirect lighting gives it a snug cosy atmosphere. Lighting must therefore highlight and compliment the colours and textures in a room.

A beautiful hanging lampshade can be made from veneer. This can be hung fairly low as the soft light it casts will not cause eye strain.

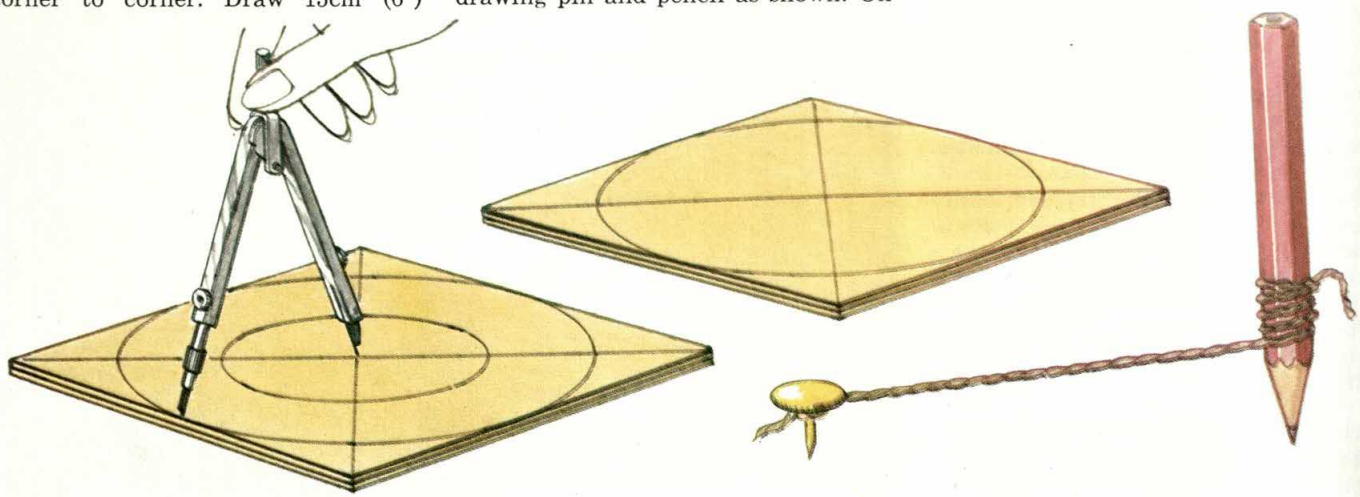
The lampshade is very simple to make. It consists of two discs—one top and one bottom—with strips of veneer glued to them. It does not have to be shaped as this happens automatically when the strips are glued down. High quality card or suitable plastic can be substituted for veneer but generally the veneer is more effective.

Gluing veneer. To use contact adhesive, spread the glue over the surfaces to be put together. Allow the glue to dry and then put the two pieces together carefully. They must be positioned accurately and all that is needed is to hold them tightly together for a second.

You will need:

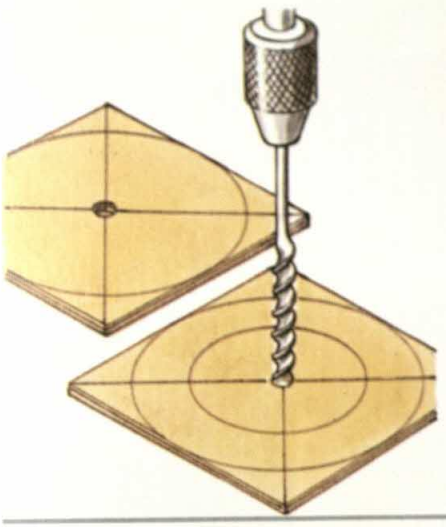
2 pieces of plywood 6mm ($\frac{1}{4}$″) thick and 15cm (6″) square.
Veneer from which to cut six pieces 15cm (6″) wide, 71cm (28″) long, and six pieces 15cm (6″) wide, 61cm (24″) long, ie a total of 1.85m x 71cm (6′x28″).
Ceiling light fixture.
Coping saw.
Steel ruler or straight edge at least 1m (1yd) long.
Trimming knife.
Brace with 13mm ($\frac{1}{2}$″) bit.
Pair of compasses, protractor.
Contact adhesive like Evostick Impact.
Sheet of paper 60cm x 60cm (24″x24″).
Drawing pins.

1. Mark the centres of the two plywood pieces by drawing diagonal lines from corner to corner. Draw 15cm (6″) circles on both by using compasses with a 7.5cm (3″) radius or use a drawing pin and pencil as shown. On one piece draw another circle with 4.5cm ($1\frac{3}{4}$″) radius.

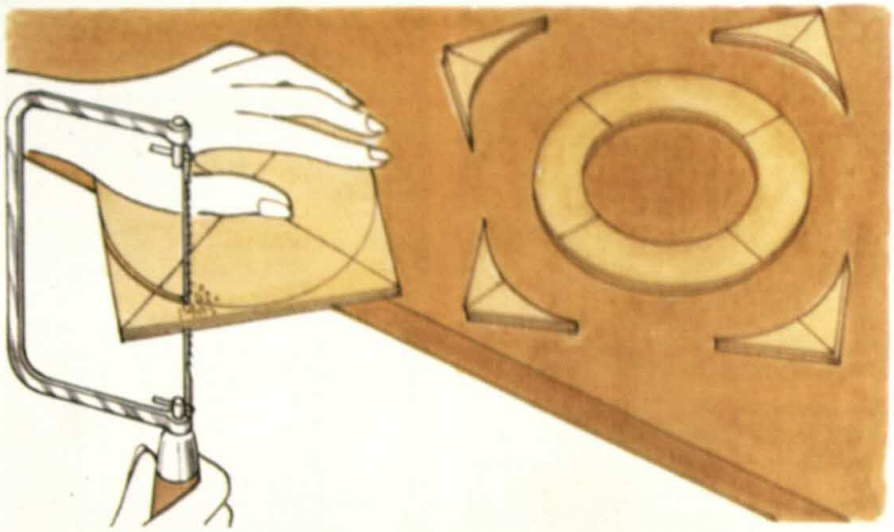


Paul Williams

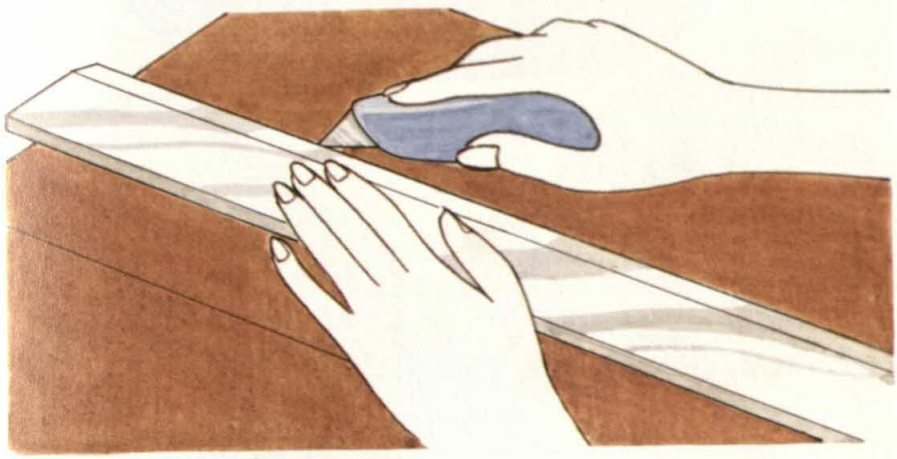
2. Drill a 13mm ($\frac{1}{2}$") hole in the centres of both pieces. Work on a piece of waste wood to prevent the bottom surface of the plywood from splintering.

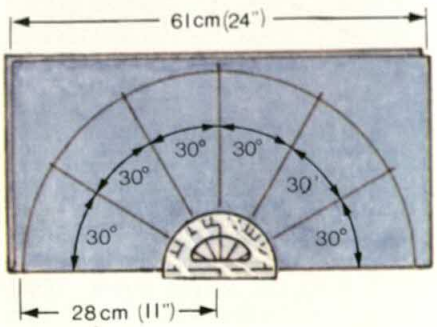


3. Using a coping saw cut out the internal circle marked on the one piece and then cut out the two outlines. You should now have two discs, one with a 13mm ($\frac{1}{2}$") diameter hole and the other with a 9cm ($3\frac{1}{2}$") hole.

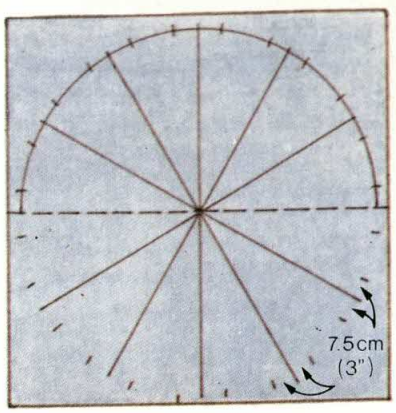


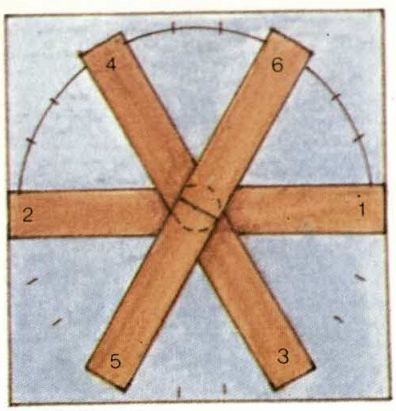
4. With a pencil, mark twelve 15cm (6") widths on the veneer. Cut with trimming knife and then mark six lengths of 71cm (28") and six lengths of 61cm (24"). Cut with trimming knife.
5. Using the paper folded in half draw a semi-circle with a 28cm (11") radius. Divide into 30° angles from the centre as shown. (You can use a protractor for this if you have one.)

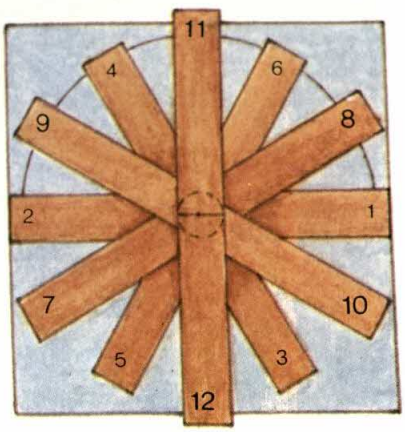




6. Open out the paper and extend the lines. Make a mark 7.5cm (3") on either side of the 12 dividing lines.
7. Position the disc with the 13mm ($\frac{1}{2}$") hole in the centre of the paper. Apply glue to one end of the six 61cm (24") strips and the disc and arrange the strips on disc in the order shown, making sure that the strips are within the 7.5cm (3") marks. Leave to dry.
8. Glue the 6 longer strips in the same way so that long and short strips alternate around the circle. Allow to dry and then remove paper.



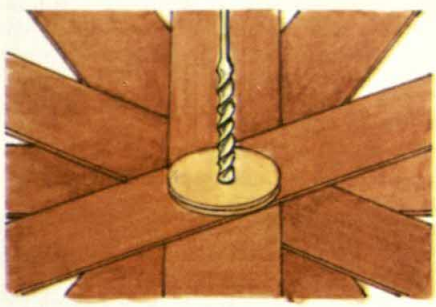




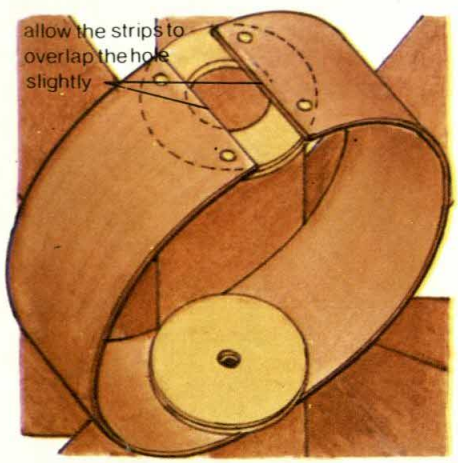
Johnny Ryan

The base of the shade, showing how strips 11 and 12 run round the outside.

9. Re-drill the 13mm (½") hole through the strips that are now covering the hole.



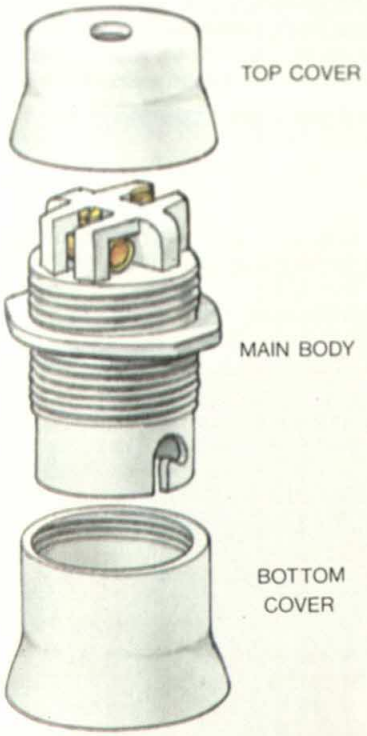
10. When dry start gluing the free ends of strips to second disc. Use drawing pins to hold the strips in position. Begin with the shorter strips and then finish with the longer strips. When gluing the longer strips make sure that the curve is even. Any excess ends can be trimmed away. Leave to dry. Cut the ends that are overlapping the hole carefully with the trimming knife.



Jerry Tubby

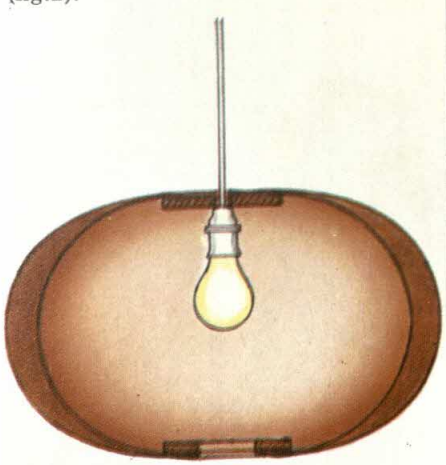
A big, important shade which gives a warm and friendly light.

Fitting the lamp. If there is an existing hanging light fitting, changing shades is very easy.
First make sure that the current is turned off at the main fuse box.
Remove the bulb. Unscrew the fitting which is in 3 parts (fig.1). Disconnect



1. *Take the fitting apart and run the flex through the hole in the shade.*

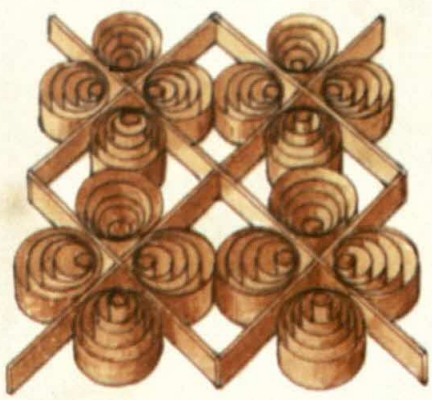
the wires from the main body and pull them through the 13mm (½") hole of the lampshade. Then pull the wire through the larger hole in the lampshade as well, as it will make it easier to attach the fitting.
Thread the top cover on to the wire, screw the wires into the main body and fit the bottom cover. Insert the light bulb and slide the lampshade down the cord or flex so that the lampshade rests on the top of the fitting (fig.2).



2. *Fitting reassembled inside shade.*

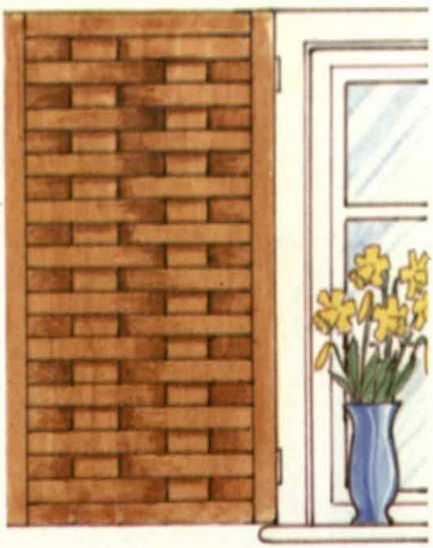
Other uses for veneer

Although a veneer is normally glued to a solid surface, the designs here, as for the lampshade above, show how it can be used on its own.
Charming little boxes can be made by bending strips into circles and then cutting a top and bottom to fit.
Another idea is a 'wood weaving' which makes an unusual wall panel especially if you use veneers from different types of wood or contrasting widths.
Wood veneer, known as chipwood or woodshaving, is also sold in rolls in hobby shops, in a range of up to four widths from 1cm-4.5cm (½"-2¼") in eight colours. The strips can easily be cut with scissors and, to make them pliable, you need to soak them for 10 minutes in water before bending them into shape. The star design below is typically Scandinavian: coiled woodshavings are glued to a frame which is made in the same way as the pot stand in Carpentry chapter 1, page 20.
Alternatively, you can weave the strips to make panels, sandwiched between a frame of eight slats of wood. This way you can build up attractive cupboard doors and screens.



Steve Bicknell

Rolls of chipwood (wood shavings).



Above: a chipwood panel makes a smart alternative to curtains.

Left: traditional Scandinavian design for a pot stand or wall decoration.

Below: plain chipwood boxes can be bought from hobby shops and painted.

Camera Press

Sectional cap and beret

Cloth — millinery 4

This is the second of two chapters on making a hat from a sectional pattern and deals with making a cap with a peak, and a beret, both of which are stiffened with interfacing.

The points made in Millinery chapter 3 regarding sectional patterns and adapting them apply to these hats.

Note: Both patterns are designed to fit a 56cm (22″) head with 1.5cm (⅝″) ease but without seam allowances.

Steve Bicknell

Interfacing

A stitched hat made from dressmaking fabrics (for range see Millinery chapter 1, page 576) often needs to be stiffened with an interfacing in order to hold its shape.

Although non-woven interfacings can be used, they have no grain, and therefore no cross (bias), and so cannot be moulded into good curves for a smoothly rounded shape.

There are several types of suitable cotton interfacing on the market, such as 'Sanforized' cotton or 'Permastiff', which regain their stiffness after washing or damp pressing. Tarlatan or leno, which is a similar stiff muslin, can be used for lightweight shapes, so can nylon net.

For firmer shapes there are millinery fabrics, such as elastic net. French collar canvas is a good crisp tailoring interfacing suitable for heavier fabrics such as velvet. A lightweight buckram is used occasionally, as in the peak of the cap style.

It is always advisable to choose the lightest possible interfacing which will support the shape as a heavy hat can be very uncomfortable to wear.

Headbands

Many caps and berets are made with the sections stitched on to a headband. This is a strip of interfaced fabric, cut on the cross (bias), which is fitted round the headline and joined with a seam at the centre back.

The band is cut to the length of the headline plus ease, by twice the chosen finished width, with 1.5cm ($\frac{5}{8}$") seam allowance all round.

After the centre back seam of the band is sewn up it is attached to the lower edge of the beret shape. Then it is folded in half so that all the raw edges go up inside the hat and the head ribbon is stitched to cover them.

Peaked cap

You will need:

70cm ($\frac{3}{4}$yd) lightweight denim or similar pliable fabric.

70cm ($\frac{3}{4}$yd) cotton interfacing.

Matching thread such as Sylko No.40.

Silk buttonhole twist (in preference to synthetic) in a contrasting colour for topstitching.

30.5cm x 30.5cm (12"x12") piece of lightweight buckram.

60.5cm (24") of 2cm-2.5cm ($\frac{3}{4}$"-1") wide millinery petersham ribbon.

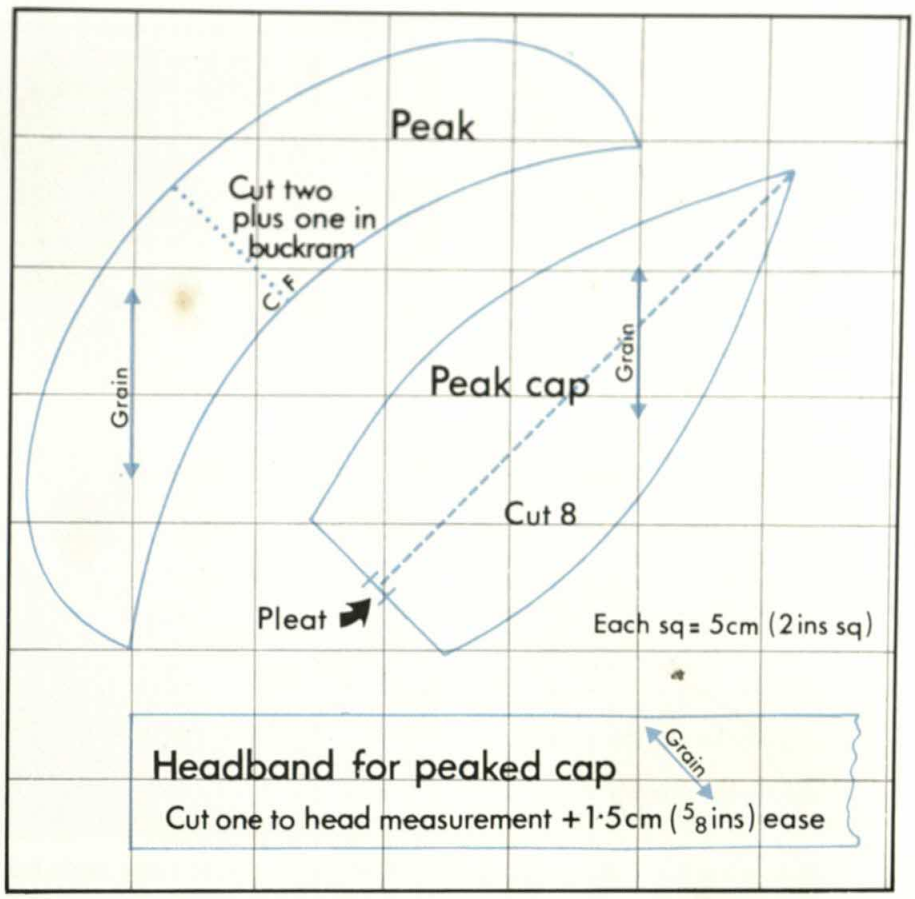
50cm ($\frac{1}{2}$yd) toning taffeta lining.

☐ Using the graph pattern (fig.1) and following the cutting layout (fig.2) cut out eight crown sections and a headband (to the length required) in interfacing. Then cut the peak in buckram (cut this without seam allowance on the outer, curved edge, but make a 1.5cm ($\frac{5}{8}$") allowance on the inner edge).

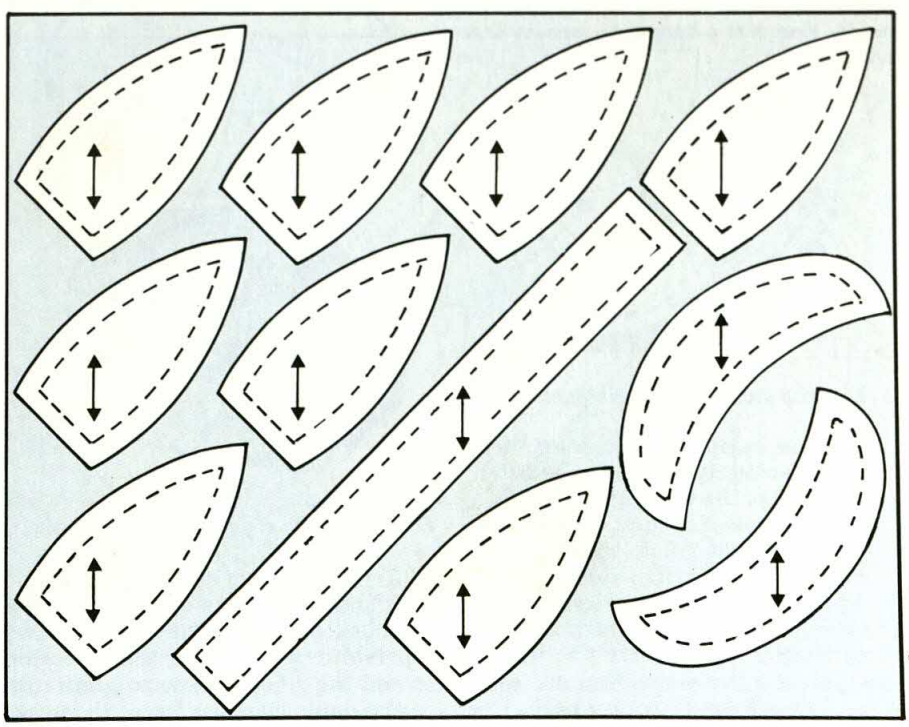
☐ Make up a trial shape in interfacing tacking together the crown sections as described for the sun hat in Millinery chapter 3, page 624.

☐ Turn the shape right side out and attach the headband interfacing. Try on the shape and check it carefully. Make any alteration necessary.

☐ When the shape is satisfactory,



1. *Graph pattern for peaked cap (no seam allowance included).*

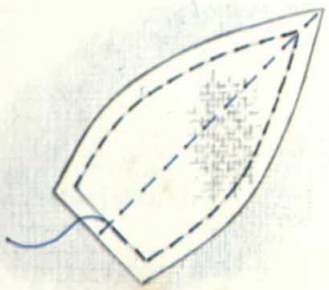


2. *Cutting layout for peaked cap showing 1.5cm ($\frac{5}{8}$") seam allowance.*

Left: a sectional peaked cap which is topstitched in a contrasting colour.

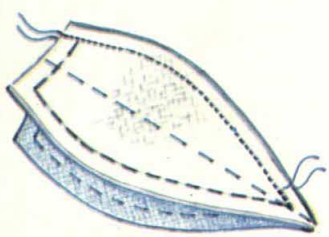
Trevor Lawrence

mark the sewing lines lightly in pencil on each section and then take apart.
☐ Press all the pieces of interfacing flat with an iron and damp cloth, they can then be used as the pattern for the top fabric. (When cutting out the fabric it will be necessary to add the 1.5cm ($\frac{5}{8}$") seam allowance to the outer edge of the peak.)
☐ Press the top fabric well.
☐ Following the cutting layout (fig.2), pin the interfacing on to the wrong side of the single denim fabric (so that you can see the pencil stitching line) with the grain matching and the centre of all sections on the true cross.
☐ Cut out the fabric.
Don't cut out peak in top fabric yet.
☐ Tack each piece of interfacing, including the headband, to its top fabric section with a line of stitches worked down the centre of each section and then a line round the edges on the



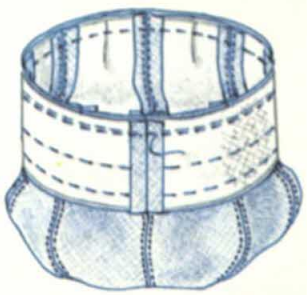
3. *Interfacing tacked to top fabric.*

pencilled stitching line (fig.3). The top fabric is now mounted on to the interfacing and the two layers can be handled as one.
☐ Join the sections together, tacking and then machine stitching from the headline up to finish exactly on the point. Leave the turnings free at the point (fig.4).



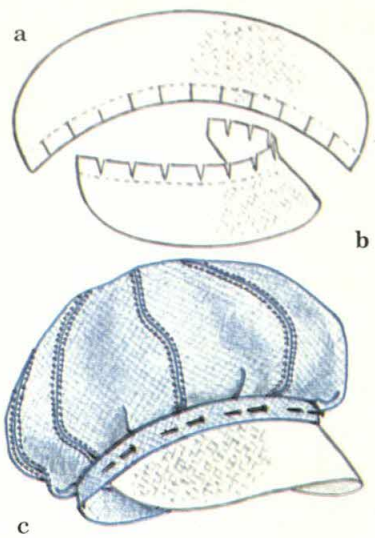
4. *Two cap sections stitched together.*

☐ As you complete each seam, trim the interfacing right back to the stitching and press the turnings open.
☐ Work a row of decorative topstitching in buttonhole twist about 3mm ($\frac{1}{8}$") from the seam on either side.
☐ Make up the crown as described for the sun hat using either method 1 or 2. With method 2, after the two halves are joined with a continuous seam from centre front to centre back, this seam is then trimmed, pressed open and topstitched to match the others.
☐ Stitch narrow edges of the mounted headband together and tack it into position round the headline with right sides facing. On this style the lower edge of each section needs a small pleat to reduce the width to fit the headband. This, or a line of gathering stitches, will give the cap a full, puffed outline. Tack on the band firmly (fig.5).



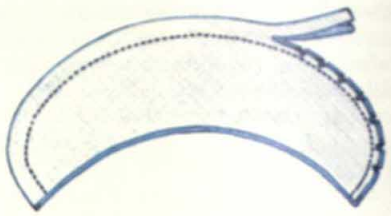
5. *Headband tacked firmly to the cap.*

☐ Fold the band in half and turn all the raw edges up to the inside, then try on the shape for a style check.
Unfold and stitch on the headband along the line of tacking.
☐ Fold the band in half once again but do not stitch the second edge as this is left free.
Peak. Take the buckram peak and clip the seam allowance at the headline almost to the stitching line (fig.6a). Bend these turnings upwards (fig.6b) and pin them behind the headband (fig.6c).



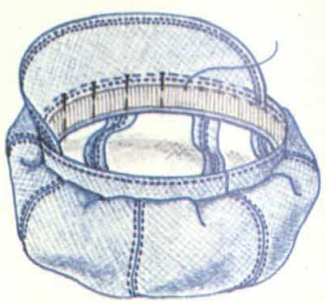
6. *Pinning on clipped buckram peak.*

☐ Try on the cap again and trim the peak shape if it seems too big. Then use the buckram as a pattern for the two top fabric peak pieces, remembering to add the 1.5cm ($\frac{5}{8}$") seam allowance to the outer curved edge of the peak.
☐ Tack and stitch the two fabric peak pieces together around the outer edge, with right sides facing. Trim the turnings as close to the stitching as possible, notching if necessary (fig.7).



7. *Trimming turnings on fabric peak.*

☐ Turn the shape right side out.
☐ Slip the buckram peak inside the two layers of fabric and tack the three layers together all round.
☐ Work two lines of decorative topstitching round the outer edge of the peak to hold the buckram in place.
☐ Stitch the peak in position at the centre front of the cap on the stitching line, using ladder stitch worked with double thread.
☐ Topstitch by machine all round lower edge of headband for extra stability and a good finish.
Head ribbon and lining. Pin the petersham ribbon carefully around the headline and then hem into place, as shown, with regular, upright hemming stitches picking up every fourth loop on the ribbon edge (fig.8).



8. *Stitching in petersham head ribbon.*

Note: The inner edge of the headband remains free.
Lining. Using the same pattern for the lining as for the top fabric, cut out the crown sections only and stitch them together in the same way as the crown of the hat. It is not necessary to press the seams open or to topstitch.
☐ Drop the lining into the cap so that all raw seams are hidden.
☐ Pin the raw bottom edge of the lining to the headband behind the head ribbon, pleating to reduce the fullness where required. There is no need to turn under these raw edges. Secure in place with a light running stitch.
Finishing cap. Give the hat a light steam then put it on your head to set, pulling it to the most flattering angle.

Barbara Firth

Steve Bicknell

Left: beret made in six sections with decorative topstitching on each section.

Stitched beret

You will need:

50cm (⅝yd) soft rayon shantung, twill fabric in wool/cotton or a fine linen-like viscose.

50cm (⅝yd) cotton interfacing.

50cm (⅝yd) jacket domette (or flannelette).

Matching and contrasting thread such as Sylko No.40.

Millinery petersham head ribbon and taffeta lining as for cap.

☐ Using the graph pattern fig.9 (beret) and following cutting layout (fig.10), cut out six crown sections in interfacing to check the shape. Adjust if necessary, unpick and iron flat.

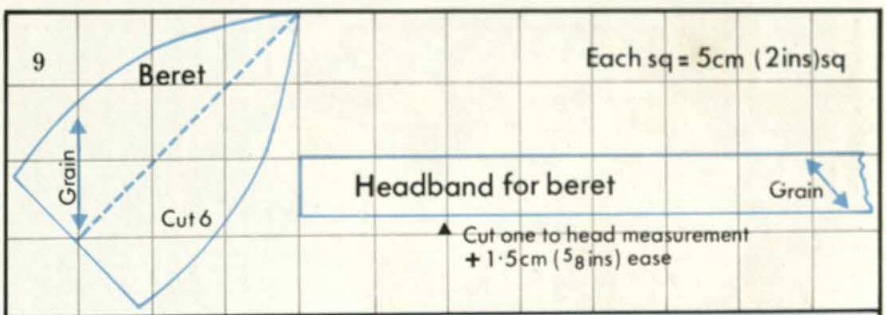
☐ If you wish to work the decorative topstitching, cut crown sections in domette (this will give a richer look to the finished hat) and then in the top fabric. Use the interfacing sections as a pattern and follow the cutting layout (fig.10). (All sections must be cut on the true cross, and the grain on the interfacing, domette and top fabric must match.)

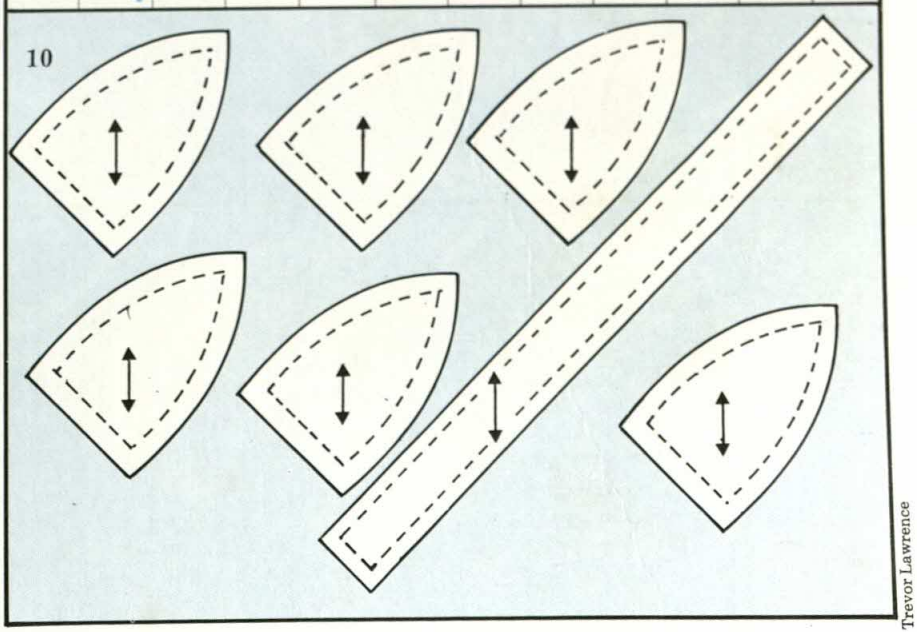
☐ With each domette section sandwiched between its interfacing and the top fabric section, tack the three layers together, tacking down the centre and then along the stitching line. These can now be treated as one.

☐ Using a fairly long straight machine stitch topstitch carefully over each section as in the photograph. Use the machine foot as a guide to the space between the rows. Do not stitch outside the seam allowance.

☐ Make up the beret as for the cap, but trim away domette as well as interfacing on the seams. Topstitch the seams, attach the headband and finish with a head ribbon and lining.

9. *Below: graph pattern for the beret. No seam allowance has been included on the graph pattern.*





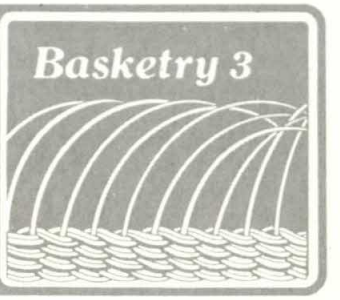
Trevor Lawrence

Alasdair Ogilvie

Above: close-up of the beret showing the decorative topstitching.

10. *Above: cutting layout for beret showing 1.5cm (⅝") seam allowance. Omit headband when cutting out in domette as it has no decorative topstitching.*

Shaped and tiered platters



In basketry the designs are endless and once you have mastered the basic weaving techniques it is possible to make any number of articles without ever repeating the same design.

Basketry techniques can be used to make a variety of objects. The baskets illustrated here can be used in different ways and are easy to make. They make eye-catching party dishes for crisps, nuts and potato stitcks or you can use

Melvin Grey

them as platters to hold flat oven dishes.
If you are really ambitious you can join them together to make a tiered stand for a festive floral arrangement which is also sturdy enough to be heaped with fruit and nuts.

To make the baskets

Instructions are for three baskets with diameters of 18cm (7″), 25cm (10″) and 35.5cm (14″) which can be made into a stand.
You will need the tools and techniques used in Basketry chapter 1, page 220 and Basketry chapter 2, page 244.
Materials
57g (2oz) No.10 (3.35mm) cane.
113g (4oz) No.4 (2.25mm) cane.
170g (6oz) No.5 (2.5mm) cane.
113g (4oz) No.8 (3mm) cane.
57g (2oz) No.12 (3.75mm) cane.
113g (4oz) No.3 (2mm) cane.
113g (4oz) No.13 (4mm) cane (for tiered stand only).
Prepare, ie soak, the cane before starting the baskets.

The 25cm (10″) basket

Use No.10 (3.35mm), No.3 (2mm), No.4 (2.25mm) and No.5 (2.5mm) cane.
☐ Cut 8 base sticks of No.10 (3.35mm) cane 20cm (8″) long. Make a point at one end of four of the pieces. Using the bodkin split the other four in the centre and insert the pointed sticks into the split to form a cross. If the sticks bunch up then the splits are not long enough.
☐ Bend a length of prepared No.3 (2mm) cane—not quite centrally or the two ends will then be used up at the same time. To bend the cane break the fibres by twisting them with the fingers.
☐ Loop the cane where you have bent it over one 'arm' of the cross and bring both ends down to the front to form two weavers.
☐ Pair for 2 rounds keeping all the sticks of each arm together.
☐ On the third round open the arms of the cross into pairs. Don't expect the weaving to open the sticks. You have to pull the sticks apart with your fingers to get the correct shape.
☐ Continue to pair for 4 more rounds.
☐ Open the sticks so that they are all single like the spokes of a wheel.
☐ Continue pairing until the work has a diameter of 15cm (6″), joining in new weavers when necessary.
☐ Insert 3 lengths of No.4 (2.25mm) cane into any 3 consecutive spaces. Mark the stick immediately to the left of the left hand weaver.
☐ Wale for 3 rounds. Remember to do a step-up each time you reach the marked stick.
☐ Complete the 3 rounds of waling up to the marked stick. Then take the left hand weaver in front of 2 sticks and behind the marked stick and back to the front.
☐ Take the next weaver on the left in front of two sticks, behind one but thread it under the top weaver of the previous round on its way to the front.
☐ Repeat with the last weaver but thread it under the top weavers of the previous rounds on its way to front.
☐ Trim all surplus ends of sticks.
☐ Cut 64 stakes of No.5 (2.5mm) cane 30.5cm (12″) long and point one end of each stake.
☐ Insert the pointed ends of the stakes into the work. Insert two stakes on each side of each base stick.
☐ Insert two weavers of No.3 (2mm) cane into the base weaving and pair for 4 rounds keeping the stakes in pairs.
To shape the bowl wale for another 3 rounds but as you work gradually push the stakes up and away from you and weave in this position keeping the stakes in pairs. Remember to step-up on each round when waling. Finish as before.


Dick Miller

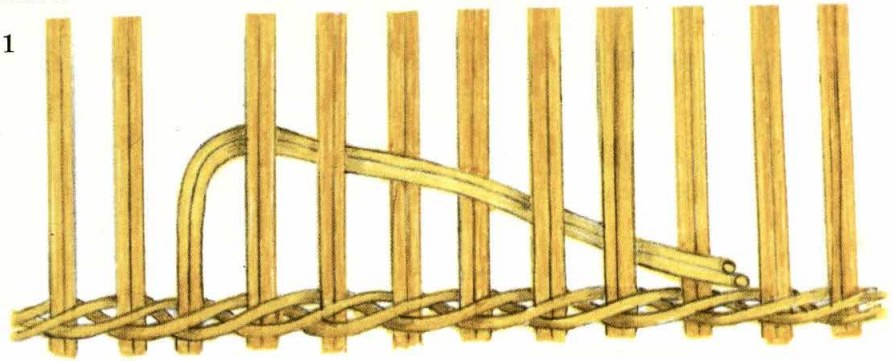
Additional stakes are added to the base for putting on the border.

The border. Starting with any pair of stakes bend them down to the right about 4cm (1½″) from the waling. Pass them behind the next two pairs, in front of the next two pairs, behind two pairs and back to the front which is the underside of the bowl (fig.1). While you are making the border try to bend the sides up and away from you to complete the bowl shape.
☐ Repeat with each pair of stakes in turn. The last few stakes will pass in front and behind stakes that are already turned down. Keep the pattern correct and the stakes in their correct position. When you are finished you should not be able to see where you started and where you finished.
☐ Trim all surplus ends. Be careful not to cut border stake ends too short or they will slip through to the inside.

The 18cm (7″) basket

Use No.8 (3mm), No.3 (2mm), No.5 (2.5mm) and No.4 (2.25mm) cane.
☐ Cut 6 base sticks of No.8 (3mm) cane 13cm (5″) long.

1. *Starting the border: bend the sides up and inwards to complete the shape.*



Barbara Maynard

Left: these versatile platters with sloping sides have intricate borders. Designed by Barbara Maynard.

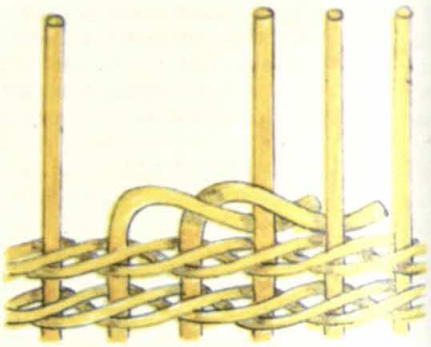
☐ Pierce three in the centre and split them. Point one end of the other three and insert them into three split sticks to form a cross.
☐ Bend a length of prepared No.3 (2mm) cane and pair for 2 rounds before opening the sticks singly.
☐ Continue to pair until the work measures 9cm (3½″) across.
☐ Wale for 2 rounds stepping up on the first round and finishing as before on the second round.
☐ Trim the surplus ends.
☐ Cut 48 stakes of No.5 (2.5mm) cane 25cm (10″) long.
☐ Point one end of each stake and insert the pointed ends into the work—two on each side of each base stick.
☐ Insert two weavers of No.4 (2.25mm) cane and pair for 3 rounds keeping the pairs together.
☐ Insert three lengths of No.4 (2.25mm) cane and wale for 2 rounds shaping the bowl as before.
☐ Complete the bowl by putting on the same border as before and try to keep shaping the basket as you work.

The 35.5cm (14″) basket

Use No.12 (3.75mm), No.4 (2.25mm), No.5 (2.5mm) and No.8 (3mm) cane.
☐ Cut ten sticks of No.12 (3.75mm) cane 23cm (9″) long. Pierce five in the centre and point one end of the other five. Insert the pointed sticks into the split to form a cross.
☐ Pair for 2 rounds with No.4 (2.25mm) cane.
☐ Open the arms of the cross out to the pattern of 2-1-2 on each arm.
☐ Pair like this for 6 rounds and then open out into single sticks.
☐ Continue to pair until the work measures 20cm (8″) across.
☐ Finish off the pairing and trim the ends of the weavers.
☐ Insert 3 lengths of No.5 (2.5mm) cane and wale for 3 rounds stepping up on the first 2 rounds and finishing as before on the third round.
☐ Cut 80 stakes of No.8 (3mm) cane 35.5cm (14″) long and point one end of each. Insert the pointed end into the work—two on each side of each base stick—as before.
☐ Insert 2 lengths of No.4 (2.25mm) cane. Keep the stakes double and pair for 8 rounds bending the work up and away from you to shape the bowl.
☐ Insert 3 lengths of No.5 (2.5mm) cane and wale for 3 rounds stepping up on the first two rounds and finishing on the third round.
☐ Put on the same border as before but this time bend each pair of stakes down 4.5cm (1¾″) from the waling. It is a bit more difficult to make this border as you are working with No.8 (3mm) cane. Soak the work well and keep shaping it as you work. Trim off the surplus ends.

The tiered stand

If you have made the three baskets and want to stack them don't be put off because it looks difficult. The stand is 38cm (15″) high and made from No.13 (4mm) and No.5 (2.5mm) cane.
☐ Cut 10 stakes of No.13 (4mm) cane 51cm (20″) long and point one end of each piece. Soak well—at least 30 minutes in hot water. These stakes will pass through the 3 baskets and the ends will be used to make a border underneath the large basket with a similar one on the top.
☐ Starting with the larger basket make 10 holes 5cm (2″) from the centre. Use the bodkin to 'open' the work so that you do not damage the cane. Space the holes evenly to form a circle with a diameter of 10cm (4″).
☐ Insert the stakes so that 7.5cm (3″) protrudes from the wrong side of the basket.
☐ Wale for 2 rounds on the underside of the basket with No.5 (2.5mm) cane.
The footing. Using the short ends on the underside of the basket put on the foot border by bending each stake in turn, down to the right, in front of one and then tuck it behind the next so that it is on the inside of the ring (fig.2). The last stake will have to be passed under a stake which has already been turned down.


Barbara Maynard

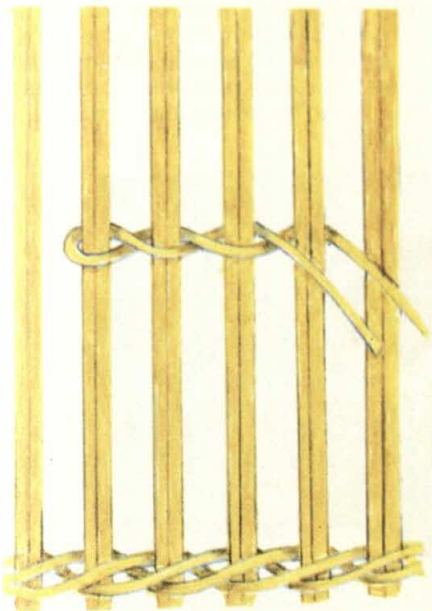
2. *Working the foot border.*

☐ Turn the work the right way up and pull each stake in turn until the footing rests evenly on a flat surface.
☐ Wale with No.5 (2.5mm) cane on top side of basket for 4 rounds on the stakes stepping up on the first three rounds and finishing on the fourth.
Bye-stakes are inserted next to the stakes for additional strength.
☐ Cut 10 bye-stakes of No.13 (4mm) cane 19cm (7½″) long and point one end of each. Be very accurate when measuring these as they level the next basket.

Ends protruding from bottom of large basket—first stage of tiered stand.


Dick Miller

☐ Insert the pointed ends of the bye-stakes into the waling, one to the right of each stake.
☐ 14cm (5½″) from the waling put on one round of fitching.
To fitch bend a piece of No.5 (2.5mm) cane roughly in the centre and loop it around a stake where the fitching is required. Let the two ends come to the front of the work to form two weavers.
☐ Grasp both weavers in the thumb and forefinger of the right hand and twist them towards you so that the right hand weaver comes over the top of the other.
☐ Slip the under one (or left one) round the back of the next stake and back to the front (fig.3). Repeat all the way round.



3. *Fitching: keep this level and same distance from work all round.*

☐ Do not allow the circle of stakes to get wider while you are fitching. Keep the fitching level so that it is the same distance from the work all round.
☐ Insert another No.5 (2.5mm) cane and wale for 3 rounds stepping up on the first two rounds and finishing off on the third round.
☐ Make quite sure that all the bye-stakes are the same height. Trim them if necessary so that they are level with the waling. *Be careful not to cut any of the long stakes.*
☐ Use the bodkin and make 10 holes in centre basket to form a circle around the centre with a diameter of 7.5cm (3″).
☐ Thread the 10 stakes on the large basket through these holes and push the centre basket down on to the waling. Make sure that it is level.
☐ Put 4 rounds of waling with No.5 (2.5mm) cane on to the stakes. Step-up on the first three rounds and finish on the fourth round.

Steve Bicknell

Platters can be stacked on top of each other to form a tiered stand for holding fruit. Designed by Barbara Maynard.

☐ Cut 10 bye-stakes of No.13 (4mm) cane 16.5cm (6½″) long, point one end of each and insert the pointed end to the right of each stake and into the waling.
☐ Fitch as before 11.5cm (4½″) away from the waling and then insert another No.5 (2.5mm) cane and wale for 3 rounds. Trim the bye-stakes so that they are level and flush with the waling.
☐ Make 10 holes in the small basket to form a circle around the centre with a diameter of 5cm (2″).
☐ Thread the 10 stakes through these holes and push the basket down level on to the waling.
☐ Wale for three rounds with No.5 (2.5mm) cane on the top of the small basket.
☐ Use the stake ends to put on the same border as you did for the footing underneath the large basket. The tiered basket is complete when you have trimmed all the excess ends.

Mechanical curves

Design know-how 24

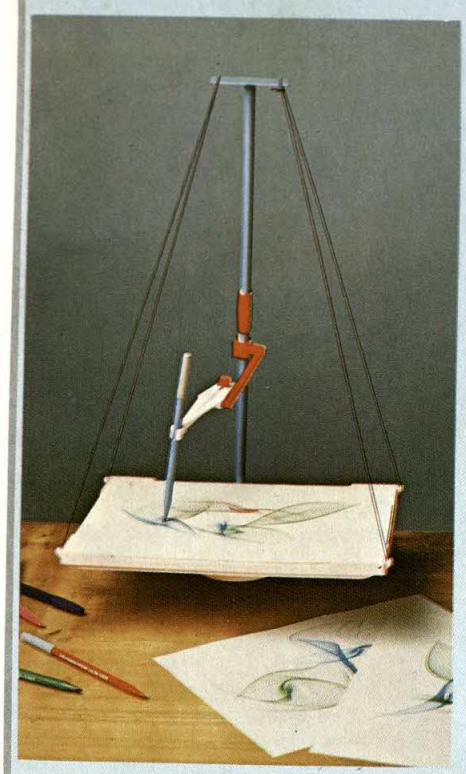
Here are three kinds of beautiful, intricate patterns which you can make. They are, quite literally, child's play taking only a few minutes and a little practice.

There are several devices available which make these decorative, linear designs. One type, such as a Spirograph, makes regular, consistent patterns which can be repeated. The movement of this type is controlled by mechanical cogs and pivots. If you look at the back of many currency notes you will probably see some complicated patterns which have been made by this method. They are so complicated that they cannot easily be repeated or forged.

Another device, such as the Swing-o-graph, works on the pendulum principle. Imagine a pendulum or a heavy ball on a length of string. When it is set in motion the pendulum is pushed off-centre. It will gradually swing back to the vertical in smaller and smaller coils and loops, making what is called a 'decaying' or diminishing pattern, until it comes to rest.

This type has a weighted platform suspended by four strings from a rod which is fixed to a table by a clamp. A felt-tipped pen pivots over the platform which is covered with white paper. When the platform is both rotated and pushed by hand the pen draws circular and swinging patterns called harmonographs. The spacing of the lines becomes smaller and smaller as the platform oscillates back to a central position. No pattern can ever be exactly repeated although with a little practice the movements can be controlled.

You will be able to make linear designs of several superimposed colours and then colour in the spaces between the lines. You can use these patterns as the basis for embroidery, collage or painting.



When the platform is pushed the pen draws one pattern after another.

Dick Miller

These patterns look very complicated and are impossible to draw freehand; with a simple, mechanical device they are easy to create.


606 Cobalt
Tint